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No wrapping—No address.

A. S. BURLESON,
Postmaster-General.

CALIFORNIA STATE BOARD OF HEALTH MONTHLY BULLETIN



To prevent the blindness of these unfortunate American soldiers would have required the prevention of the world war; but to prevent nearly all cases of blindness in California babies requires only the use, at birth, of the prophylactic which is supplied free by the State Board of Health. A baby unnecessarily blind is as deserving of sympathy as one of these blinded heroes.

**Q INFLUENZA OUTBREAK OF 1889-1891
TUBERCULOSIS IN SAN QUENTIN**

Q NOVEMBER-DECEMBER, 1918

California State Board of Health

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CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

Vol. 14

NOVEMBER, DECEMBER, 1918

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ALABAMA STATE BOARD OF HEALTH

MONTGOMERY BULLY

NOVEMBER-DECEMBER 1918

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MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California, under the Act of Congress of July 16, 1894. Acceptance for mailing at the special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 27, 1918.

Sent free, on request, to any citizen of California.

WILFRED H. KELLOGG, M.D., Secretary and Executive Officer . Editor
GUY P. JONES, Assistant to the Secretary . . Associate Editor

January Bulletin The January Bulletin will be devoted largely to discussions of the influenza outbreak in California. The work of compiling morbidity and mortality statistics on the epidemic has involved a stupendous amount of work and the delay in issuing the Bulletin during the fall months is due solely to the extreme demands upon the time of the members of the State Board of Health staff occasioned by the most important outbreak of communicable disease that ever occurred.

★ ★ ★

No Doubt About How To Control Malaria. If there were as much information available about influenza control as there is about malaria control the history of the present influenza outbreak with its terrific losses in sickness and death, would probably never need to be written. Everyone knows how malaria was banished from the Panama Canal Zone by means of mosquito eradication, and many Californians know how several towns in the malarial districts of California have rid their communities of malaria by banishing the insects. Legislation has been introduced for the purpose of enabling every malarial district in the state to take advantage of our definite knowledge for the eradication of this disease. There is no excuse for the residents of any community to suffer from malaria.

★ ★ ★

Mosquito Almost Kills Newspaper. This is what the editor of a paper in a San Joaquin Valley town has to say about malaria in his community: "A mosquito nearly put the Echo out of business last week. We had emerged from under a load of work during the closing days of the campaign which would have been sufficient for two good men to carry, when our good wife fell severely sick from the bite of a mosquito and her condition required much of our attention. We have been one of those who have entertained the delusion that malaria did not make people very sick—simply made them feel mean and destroyed their efficiency for a time. We have changed our mind. When people lie for days with a

raging fever and entertain you with all manner of speech and song in their delirium, they're sick.

But the most deplorable feature of this mosquito business is that we endure it for the 'good of the town' or for the benefit of somebody's ranch or locality, where they do not have malaria, but the inhabitants take quinine daily in quantities sufficient to choke an ox.

This bunk about there being no malaria in any particular spot along the foothills of this newly developing country has about run its course, and the sooner the people look the question squarely in the face and stamp it out, the sooner will the country develop and prosper as it deserves.

Malaria is a useless economic waste, physical discomforter and life shortener, although they say nobody ever dies of the disease. Some day the people will bury their false pride and foolish notions about what is good for the community and swat the mosquito before he is hatched, and then will elasticity come back into the step of a lot of sloths, clearness will replace the yellow skin, light will return to the eye and the smile to the lips."

★ ★ ★

Make the Common Towel Disappear. The common towel is prohibited by law in public places throughout California. Since this law went into effect in 1917, the common towel has become comparatively rare in most of the larger cities, but it still persists in some of the smaller towns and in rural districts. As a means of aiding in the banishment of this menace to the public health, the California State Board of Health has provided commercial travelers, special agents for insurance companies, state employees who travel and many other persons, with gummed labels, as represented below. These are for placing upon any common towels that may come under the observation of these travelers, calling attention to the menace.

DON'T USE THIS TOWEL

It is a common towel and may carry disease. Common towels are prohibited by law in hotels, restaurants, factories, stores, barber shops, office buildings, schools, public halls, railway stations, boats, or any other public place, room or conveyance. Violation of this act, Chapter 745, Acts of 1917, constitutes a misdemeanor, punishable by a fine not exceeding \$25.00.

These Notices Are Supplied by
CALIFORNIA STATE BOARD OF HEALTH, Sacramento.

★ ★ ★

Why Not Sanitation of Rural Communities. Wouldn't it seem strange to go back to the old home town and find no mosquitoes, rubbish, open privies nor any other of the countless insanitary conditions generally found in rural communities? The following item appeared in a California paper recently under the same caption as is printed here:

Home Town Items.

-----, California, Manager ----- is going to employ women to pick cotton on the ----- estate, if the mosquitos are not too bad. In that case, he will employ Mexicans. There are 65 acres of cotton and he expects to get a bale of 500 pounds to the acre.

MORE TYPHOID CARRIERS ARE DISCOVERED.

Recent reports of the discovery of carriers of typhoid and dysentery from the Hygienic Laboratory emphasize the growing importance of this mode of infection in these diseases. Recently the cause of several cases of typhoid fever among the inhabitants of a Japanese settlement near Sacramento was traced to a Japanese woman who was acting as cook on one of the ranches. The epidemiological investigation pointed to this woman as being the possible origin of the infection, which suspicion was confirmed by laboratory examination. Another small group of cases in Loyalton, Sierra County, was traced in the same way to a woman who kept a single cow and sold milk to several of her neighbors. This woman was the cause of four cases of typhoid fever. It is interesting to note that this woman herself gives no history of ever having had typhoid fever but all of the members of a family, with whom she was very intimate, had had typhoid fever eight year ago. Laboratory examinations of this family disclosed the fact that the mother was a carrier.

During this same period a dysentery carrier was discovered by the laboratory in the person of a nurse in a baby hospital in one of the Bay cities. The presence of dysentery in this hospital began in the fall of 1917. Several attacks occurred among the nurses of the staff until December when every nurse and every one employed in the kitchen had an attack of diarrhoea with bloody mucous stools lasting about a week. In March, 1918, cases began to appear among the patients. Another group of four cases appeared in April and three more during May, and another case in June, all of the latter three groups being among babies in the nursery. The investigations made by the Division of Epidemiology with the assistance of the laboratory, identified one of the nurses as an intermittent dysentery carrier. This nurse prepared all of the formulas for the babies' night feedings and distributed the breakfast trays to the older children. This case is of particular interest as indicating the tremendous possibilities for harm from carriers when not promptly recognized, which recognition is only possible with a well-equipped laboratory and competent staff of bacteriologists. The chronic carrier is now the principal agent in mode of spread of this disease in California, and it is only by attacking this problem in the most vigorous fashion that the curve of typhoid prevalence is to be reduced still further. With the efficient supervision of water supplies that now obtains under the Bureau of Sanitary Engineering, the next move is a rigid requirement for the release of cases of typhoid fever from observation by stool examinations for the carrier state. This is soon to be incorporated in the board's regulations governing the control of typhoid fever.

TUBERCULOSIS IN SAN QUENTIN PRISON.

By L. L. STANLEY, M.D., Resident Physician.

From January 1, 1916, to June 30, 1918, approximately two thousand five hundred and fifty (2550) prisoners were received at San Quentin. During this time one hundred and thirty (130) were admitted to the tuberculosis hospital.

From the summary it is seen that of these one hundred and thirty patients almost twenty (20) per cent came from Los Angeles County, twelve (12) per cent from San Francisco and an almost equal number from San Joaquin and Alameda counties.

Because San Quentin has an adequate tuberculosis hospital, the tuberculous prisoners from Folsom are sent here for treatment. Thirty-three (33) have in this time been transferred.

Ninety-seven (97) of the patients were classified as first offenders while thirty-three (33) had served previous terms in penal institutions.

Most of the tuberculous patients are not married. Ninety-one of the one hundred and thirty are single.

Most of the cases were of the pulmonary form and twenty-six had pulmonary hæmorrhage.

Of the one hundred and thirty, eight were operated on for appendicitis, six for fistula-in-ano, and two for ulcer of the stomach. Seven were given artificial pneumothorax treatment for hæmorrhage.

Over sixty were diagnosed as tuberculous within one month after they arrived at prison, and thirty-six more before the end of their first year.

Summary of Tabulation of Tuberculous Patients.

Total number of inmates of ward from January 1, 1916, to June 30, 1918----- 130
Counties.

Los Angeles -----	25
San Francisco -----	15
San Joaquin -----	14
Alameda -----	12
San Diego -----	9
Santa Clara -----	5
Kern -----	5
Fresno -----	4
Imperial -----	4
Sacramento -----	4
Sonoma -----	4
San Bernardino -----	3
Orange -----	3
Solano -----	2
Stanislaus -----	2
Tulare -----	2
Ventura -----	2
Butte -----	1
Del Norte -----	1
El Dorado -----	1
Glenn -----	1
Humboldt -----	1
Kings -----	1
Lake -----	1
Lassen -----	1
Merced -----	1
Napa -----	1
Nevada -----	1
Placer -----	1
Riverside -----	1
San Mateo -----	1
Trinity -----	1

Crimes.

Burglary	31
Grand larceny	17
Murder	17
Robbery	17
Fictitious check	7
Manslaughter	6
Rape	6
Forgery	5
Arson	3
Assault with deadly weapon	3
Obtaining money under false pretense	2
Lewd and lascivious conduct	2
Assault to murder	2
Petty larceny and prior	3
Dynamite	1
Embezzlement	1
Incest	1
Mayhem	1
Assault to rape	1
Receiving stolen goods	1
Attempt to commit robbery	1
Violation of Sec. 476A, P. C.	1
Violation of Sec. 854A, P. C.	1

130

Sentences.

5 years and under	50
5 years to 10 years	43
10 years to 15 years	8
15 years to 20 years	5
20 years to 30 years	2
30 years to 50 years	1
Life	15
Indeterminate	
1 year to 5 years	1
1 year to 10 years	2
1 year to 15 years	1
1 year to life	1

130

(Transferred from Folsom 33).

First termers	97
Recidivists (2 termers)	25
Recidivists (3 termers)	6
Recidivists (4 termers)	2

33

130

Age.

21 years and under	11
21 years to 30 years	59
30 years to 40 years	34
40 years to 50 years	19
50 years to 60 years	4
60 years and over	3

130

Married and single.

Single	91
Married	21
Divorced	5
Widowers	7
Unknown	6

130

Lineage.

White	84
Negro	10
Mexican	26
Indian	6
Chinese	3
Japanese	1
Hindu	1

130

Released.

Sentence served	30
Pardoned	3
Paroled	26
Parole violated	2
Died	25
Disease arrested	21
In ward under treatment	26

Form of tuberculosis.

Pulmonary	122
Gland	7
Skin	1
Hemorrhage	26

Surgery.

Appendix	8
Ears plastic	1
Fistula in ano	6
Glands	1
Hemorrhoids	4
Hernia	2
Laparotomy	1
T. B. peritonitis	1
Tumor	1
Ulcers of stomach	2
Urethral stricture	1
Varicose veins	1
Wounds from fighting	1
Artificial pneumothorax	7

Admitted to tuberculosis ward after arrival in prison.

At once	19
1 day	5
2 days	7
3 days	12
4 days	2
5 days	6
6 days	1
7 days	2
8 days	None
9 days	1
10 days	1
11 days	1
17 days	1
20 days	1
26 days	1
Second month	2
Third month	2
Fourth month	1
Fifth month	3
Sixth month	4
Seventh month	6
Eighth month	9
Ninth month	1
Tenth month	4
Eleventh month	2

Twelfth month -----	2
1 year to 18 months -----	5
18 months to 2 years -----	5
2 years to 2½ years -----	4
2½ years to 3 years -----	3
3 years to 3½ years -----	2
3½ years to 4 years -----	1
4 years to 4½ years -----	2
4½ years to 5 years -----	2
5½ years to 6 years -----	2
6 years to 6½ years -----	1
6½ years to 7 years -----	2
Fourteenth year -----	1
Sixteenth year -----	1
Twenty-eighth year -----	1

THE INFLUENZA OUTBREAK OF 1889-91 IN CALIFORNIA.

Dr. J. R. Laine, who was secretary of the California State Board of Health during the influenza outbreak of 1890-91, wrote interestingly of the epidemic in the Twelfth Biennial Report of the board. His observations were similar to our observations of today. The disease at that time prevailed in large cities and in small isolated communities in exactly the same manner as it has prevailed in such places during the past few months. Invariably, the small town suffered the worst. A large part of the entire populations of the small communities contracted the disease during the present outbreak and the death rate was high. The large cities did not suffer to so great a degree, however. This is a striking similarity in the outbreak of 1890-91.

If the dates were changed and a few minor statements altered, Dr. Laine's report, which is reprinted here, might be a creditable history of the present outbreak.

FROM STATE BOARD OF HEALTH CIRCULAR FOR DECEMBER, 1889.

Influenza was quite prevalent throughout the state, although not having as yet attained the severity which characterizes the disease as reported from Europe and the Eastern states. It is undoubtedly the same disease, and will become epidemic, although the type may be milder. No deaths from it have yet been reported, but many of our correspondents agree upon the fact that the disease is characterized by that extreme debility which is likely to prove fatal to the debilitated, or those suffering from previous sickness, or in the very aged.

FROM STATE BOARD OF HEALTH CIRCULAR FOR JANUARY, 1890.

Influenza, epidemic catarrh, or la grippe, prevailed extensively throughout the state from San Diego to Siskiyou. Dr. Tully, in a letter from Sierra City, says that it is there characterized by its tendency to attack the bronchial tubes and the substance of the lungs, but so far no deaths have occurred from it. In Gonzales, Dr. Hertel reports the disease as abating. In Salinas, Dr. May Gydison reports the disease as epidemic. Dr. Hayden reports a large number of cases in Fresno. Dr. Tebbits reports it epidemic in Hollister. Dr. Taggart also reports it epidemic in Tulare. In Redding, Dr. Mitchell says the disease is in a mild form, few cases requiring medical assistance. In Marysville, Dr. Powell reports influenza, but does not think it the genuine la grippe. The majority of our correspondents report the disease in a mild form and without fatality. Its mode of attack differs in many particulars. It may manifest itself by sneezing, headache, chilliness, cough, sore throat, earache, vomiting, or diarrhoea, or constipation, fever, dizziness, pain in the limbs, or nervous twitching, but none of these

symptoms are constant. Heaviness in the eyes, redness of the eyeballs, intense pain in the back, in the limbs and through the muscles, with a feeling of constriction round the throat or chest, are the commonest symptoms observed in la grippe. Its chief characteristic is, however, the extreme debility and prostration which accompanies its advent. This, with intense mental depression and profuse sweating, protracts the convalescence much longer than it might be supposed; and although the fever, headache and muscular pains last but a few days under proper medical treatment, the heart depression, muscular weakness, and nervous debility take some time to overcome. As the cause of the disease is at present unknown, we can advise no means of prevention, but would recommend that medical advice be sought in all cases as those suffering from previous disease, or debilitated from any cause, are very apt to succumb to a severe attack of la grippe, owing to the intense nervous prostration that ensues, and the tendency to heart failure that always accompanies the disease. Under proper stimulation this may be overcome, but to administer stimulants judiciously required an educated judgment and a perfect comprehension of the object to be attained.

FROM STATE BOARD OF HEALTH CIRCULAR FOR FEBRUARY, 1890.

Influenza is rapidly abating; although mentioned in nearly all of our reports as still present in the state, it is characterized by its mild form and general absence of fatality. Probably the next report will convey the intelligence of its total disappearance.

FROM STATE BOARD OF HEALTH CIRCULAR FOR MARCH, 1890.

Influenza, although very much lessened in the number of persons attacked, still lingers in the state, and occasionally shows itself with increased severity. It is probable that the warm weather advancing upon us will dissipate the disease completely, leaving us nothing but the memory of its presence..

FROM TWELFTH BIENNIAL REPORT, STATE BOARD OF HEALTH OF CALIFORNIA, 1890-92.

Influenza is credited with 50 deaths during the year, the fatality having begun in November. In December, 1890, there were 2 deaths; in January, 1891, there was 1; in February, 1891, there were 8; in April, 17; in May, 13; and in June, there were 7.

FROM TWELFTH BIENNIAL REPORT, STATE BOARD OF HEALTH OF CALIFORNIA, 1890-92.

Epidemic Influenza—La Grippe. During the year there were 223 deaths attributed directly to la grippe. Five occurred in July; 2 in August; 3 in September; 2 in October; 4 in November; 51 in December, 1891; 107 in January; 27 in February; 13 in March; 5 in April; 3 in May, and 1 in June, 1892.

California was visited by an epidemic of influenza during the winter of 1890-91, lasting until the following June. Its onset was simultaneous with reports of the disease in remote parts of the continent. There is reason to believe that it affected those where it could not have been conveyed by travel or other means of conveying the ordinary forms of contagious diseases. It prevailed in the Sacramento and San Joaquin valleys, the foothill counties at an elevation of from one to four thousand feet, the vicinity of Truckee at an elevation of six thousand feet, and the foggy seacoast at the same time and in precisely the same manner. The dry region of the Colorado Desert at Needles enjoyed no immunity; in fact, suffered more in proportion to numbers than the cities and towns of southern California.

There was another visitation during last winter, very much intensified, but in the main presenting the same characteristics with corresponding complications and sequelæ. Many who had the disease the first winter were again attacked, and others were afflicted with two and three attacks during the second winter. But few deaths were credited to it directly during the first winter; but during the second, when a familiarity with its clinical features had been very generally established, many deaths were reported, not only from the immediate effects of the epidemic, but more from its results and sequels.

This was especially observable in a great increase of diseases of the lungs, notably pneumonia and bronchitis.

As might be expected, the weak and sickly when attacked were the first to succumb; but these were not among the first to take the disease, and while not enjoying an immunity from it, showed no more susceptibility than the robust. The first to show its influence were those habitually exposed to outdoor life. All observers agree that when one case appeared in a house nearly every member of the household had it thereafter. Those afflicted with phthisis-pulmonaris were affected in a marked degree when attacked, but it showed no marked predilection for this class, and many pronounced consumptives made good recoveries from la grippe, without showing any deviation in the course of the original disease. No attempt will be made to give the number of fatalities of the epidemic of the last two years. A perusal of the subjoined monthly circular of the State Board of Health will give a general idea of the deaths due to the immediate effects of the malady, and the more remote effects, which it has become the custom among insurance companies to sum up as "results of la grippe." These results have been of a Protean character in California. Pneumonia, bronchitis, catarrhal pneumonia, coryza, with depression and great anxiety, severe cough, dyspnoea, extreme soreness in the chest, pain in the back and limbs, stitches in the side, headache, diarrhoea, tonsillitis, pharyngitis, earache, dizziness, and mild delirium were some of the effects of the seizures. A proneness to pneumonia, with a tendency to relapse, was the condition of most patients after an attack. The strong and robust showed no exception to this tendency.

All were left with a sense of depression and lessened vitality. The force of the seizure was spent, in many cases, on the nervous system. Many of this class of cases have not yet recovered, but have progressively declined, losing flesh and presenting the general symptoms of breaking down of the constitution.

It follows that a disease affecting so profoundly not only the nervous system, but nearly all the organs in the body separately or generally, as a catarrhal fever, must of necessity produce a violent shock on the great number of people who are always living on the brink of the grave, whose diseased hearts or brains, or lungs, or shattered nervous systems, or diseased kidneys have placed them in such a condition that the perturbing influence and sharp fever of la grippe is sufficient to make them easy victims. The same may be said of all epidemics. If a man afflicted with chronic nephritis takes la grippe, and dies during any of its complications, la grippe will be accredited with the cause, and not Bright's disease.

It is not intended to give the history of former epidemics of this disease, nor to descant on its clinical history and exciting cause. These have been pretty generally gone over during the two years that this unwelcome guest has been among us. It will be seen from the above that there has been a sameness of symptoms and general history with all accounts of its manifestations in other countries and other states. To present an opportunity of comparing the prominent features of general symptoms is all that this is intended to comprehend.

The facts in reference to the spread of epidemics of influenza, and the course of the disease in infected localities, are comprehensible upon no other theory than that of a specific infecting principle as its exciting cause. That this principle is carried over vast expanses in an incredible short space of time, producing its specific effects which we call influenza or la grippe, over vast areas of land and sea without communication from man to man, is believed to be fully established. That when one person in a household is affected with it the infection is sufficient to produce the disease in the others, is accepted by many, and general observation tends in that direction. The medium of its communication is the atmosphere, and if a germ, it must possess the power of reproducing itself in that medium; otherwise, it would become lost by dispersion in traversing distances measured by oceans and continents.

FROM STATE BOARD OF HEALTH CIRCULAR FOR NOVEMBER, 1890.

Influenza, now familiarly known as "la grippe," is observed by most of our correspondents. The abnormally dry weather which prevailed during the past month seems to have had a deleterious effect upon the general health, and probably determined that frequency to malaise which everywhere is a subject of complaint.

Influenza was very generally noted in our reports, and many of our correspondents considered that la grippe was again prevailing in their districts. The present influenza, so far as noticed, has failed to develop the intense prostration so very characteristic of the genuine la grippe. It is, however, more than probable that this symptom will not be wanting if the disease continues to increase in intensity.

FROM STATE BOARD OF HEALTH CIRCULAR FOR FEBRUARY, 1891.

Influenza, or la grippe, has, since the last report, developed into a widespread epidemic, equaling, if not exceeding, that which prevailed during the winter of 1889-90. That it spreads by atmospheric influence may be inferred from its rapid diffusion from place to place without any known intermediate intervention of contagion by external media. The present epidemic may be characterized by its sudden onset. The intensity of its initiatory symptoms, the premonitory chill, the fever, headache, backache, pains in the bones and muscles that more nearly resemble dengue, or backbone fever, than any other disease we can remember. Another feature peculiar to the present epidemic is the frequency with which cases occur in which the cough is almost entirely absent, and others in which pneumonia of a low type is almost certain to be developed. The debility accompanying the disease is invariably present, and must be treated by stimulants liberally given. The origin of the disease being unknown, the power of the sanitarian over it is exceedingly limited, and consists chiefly in advising the avoidance of all depressing influences that might deteriorate the healthy constitution or impair its strength.

FROM STATE BOARD OF HEALTH CIRCULAR FOR MARCH, 1891.

Influenza, or la grippe, continued in an epidemic form during the month. It is now on the wane, and probably by the next report issued it will have disappeared from the state. One of the most noticeable features of the epidemic was the predominance of the nervous symptoms. These were manifested by the violent headache, the pain down the spine, with oftentimes sensitiveness of the skin, making it painful to the touch, the mental depression, the tendency to faintness, which often preceded the attack, with the utter prostration following it, indicating the profound impression the poison exerted on the nerve centers.

FROM STATE BOARD OF HEALTH CIRCULAR FOR APRIL, 1891.

La grippe. The only disease that may be said to prevail extensively is la grippe, 363 cases being reported from different parts of the state, with an accredited fatality of 13. Fresno reported 33 cases, with 31 of bronchitis and 5 of pneumonia. Red Bluff 50, with 5 of bronchitis, and 10 of pneumonia. Lincoln 10, with 1 of bronchitis. College City 16, with 7 of bronchitis and 4 of pneumonia. Pleasanton 20, with 20 of bronchitis and 2 of pneumonia. Elsinore reported 15 cases, Alturas 13, Vacaville 10, with 8 of bronchitis and one of pneumonia. Eureka 5, with 10 of bronchitis and 2 of pneumonia. Anderson had 40 cases, Middletown 11, Oakdale 4, Calico 10, Knights Ferry 8, Gridley 10, Needles 20, National City 6, Etna Mills 15, Santa Paula 3, Benicia 6, and Truckee 60 cases. San Francisco, Los Angeles, San Diego and other southern points of importance report none at all. Oakland, Alameda and San Jose are almost, if not altogether, exempt. The progress of this remarkable malady has been somewhat erratic, following no well-defined course, and requiring no unusual local conditions for its development. It is unnecessary to predict its future in California. If the prevalence of moisture in some portions of the state during April is responsible for the extension of its visit, it would seem to follow that San Francisco, which had heavier rainfalls than for years before in April, should have had la grippe. Such, however, was not the case, none being reported. The southern portion

of the state has not been entirely exempt. Needles and Calico are in a region rated by the Signal Office as below normal in rainfall for April, but yet they have suffered severely from la grippe. In these instances moisture can not have been the cause.

An abstract from the Signal Service report by Lieut. John P. Finley, U. S. A., for April, is appended, to give those who may be interested in following this subject an opportunity to estimate the value of rainfall and temperature in favoring or limiting the prevalence of this unique visitation:

The rainfall has been in excess of the normal in northern California, western Oregon, and western Washington. Elsewhere there has been a deficiency. The excess varies from .05 of an inch at Sacramento to 3.31 inches at Eureka. The deficiency ranges from .04 of an inch at Los Angeles to 1.14 inches at Fresno. The heaviest monthly rainfall was 7.80 inches at Fort Canby, and the smallest .10 of an inch at Keeler. No rain fell at Yuma and Fort Grant, which fact marks an unusual deficiency for Arizona. The rainfall at San Francisco was 2.44 inches, or .40 of an inch above the normal. This is one of the heaviest rainfalls at San Francisco for a number of years during April. The other dates of heavy rainfall are as follows: 1853, 5.37; 1855, 5.00; 1860, 3.14; 1880, 10.06; 1884, 6.33; 1886, 5.28.

REPORT OF THE BUREAU OF ADMINISTRATION FOR SEPTEMBER, 1918.

W. H. KELLOGG, M.D., Director.

MORBIDITY REPORTS.

Anthrax.

Six cases of anthrax were reported during September. They were distributed as follows: Chico 1, Colusa County 1, Glenn County 3, Willows 1. The source of infection in many of these cases came from handling infected animals.

Epimedic Cerebro Spinal Meningitis.

Nineteen cases of this disease were reported during September, an increase of two cases over the preceding month. They were distributed as follows: San Francisco 4, Santa Maria 1, U. S. N. T. Camp 1, Camp Fremont 1, Berkeley 1, Bakersfield 1, San Diego City 1, Los Angeles City 3, Los Angeles County 1, Stockton 1, Kings City 1, Whittier 1, Navy Yard 1, San Diego County 1.

Poliomyelitis.

There has been a marked decrease in the number of cases of this disease reported during September over the cases reported during August. The five cases of this disease reported are distributed as follows: Arcata 1, Riverside City 1, San Francisco 1, Oakland 1, Sonoma County 1.

Smallpox.

The number of cases of smallpox reported during September, 1918, is twice as great as the number reported for this period of 1917. The 52 cases were distributed as follows: Orange County 3, Santa Ana 5, Santa Clara County 1, Porterville 7, San Francisco 13, Kern County 4, Maricopa 4, Los Angeles County 1, Los Angeles City 1, San Joaquin County 1, Stockton 6, Oakland 2, Fresno County 1, Riverside City 1, San Diego County 2. The vaccination histories of these cases show that only three of the smallpox patients had been vaccinated more than 7 years preceding the attack, while the remaining 49 had never been successfully vaccinated.

Typhoid Fever.

Typhoid fever continues to decrease in prevalence. There were 176 cases of this disease reported during September, 1917, as against 112 cases during this same period in 1918. The greater number of cases were distributed as follows: Los Angeles County 2, Los Angeles City 13, Oakland 12, Fresno County 4, Riverside City 4, Stockton 4, San Joaquin County 2, Solano County 3, San Francisco 3; the balance of the cases are well distributed over the state. The source of infection in some of these cases was outside of the state.

Venereal Diseases.

Syphilis and gonorrhea are being reported more consistently now than at any time since the law requiring reports of these diseases went into effect. There were 436 cases of gonococcus infection and 420 cases of syphilis reported during the month of September. The marked increase is due considerably to the great number of these cases being discovered in the military camps when the men come for examination.

Morbidity for September 1918, by Weeks.

	Weeks ending—				Total, Sept., 1918	Total Sept., 1917
	Sept. 7	Sept. 14	Sept. 21	Sept. 28		
Anthrax -----	1		3	2	6	
Beri-beri -----						
Cerebrospinal meningitis -----	6	6	4	3	19	3
Chickenpox -----	32	25	36	16	109	143
Cholera, Asiatic -----						
Dengue -----						
Diphtheria -----	42	35	54	48	179	112
Dysentery -----	5	2			7	13
Erysipelas -----	6	2	5	1	14	19
German measles -----	7	3	4	5	19	75
Glanders -----						
Gonococcus infection -----	102	125	124	85	436	311
Hookworm -----				2	2	
Leprosy -----			1		1	2
Malaria -----	17	36	38	26	117	156
Measles -----	77	87	86	66	316	319
Mumps -----	185	117	183	124	609	341
Ophthalmia neonatorum -----	1				1	1
Paratyphoid -----	1	2		2	5	
Pellagra -----						1
Plague -----						1
Pneumonia -----	39	38	30	26	133	184
Poliomyelitis -----	1	1	1	2	5	9
Rabies -----						
Rocky Mountain spotted fever -----						
Scarlet fever -----	29	27	30	38	124	200
Smallpox -----	22	9	4	17	52	26
Syphilis -----	134	60	103	123	420	142
Tetanus -----		2	1		3	4
Trachoma -----	1	1			2	9
Trichinosis -----						
Tuberculosis -----	137	183	156	106	582	564
Typhoid fever -----	33	22	34	23	112	176
Typhus fever -----						1
Whooping cough -----	31	20	21	6	78	138
Yellow fever -----						
Influenza -----		27	41	58	126	
Totals -----	909	830	959	779	3,477	2,950

REPORT OF BUREAU OF ADMINISTRATION FOR OCTOBER, 1918.

W. H. KELLOGG, M.D., Director.

ACTIVITIES OF THE STATE DISTRICT HEALTH OFFICERS.

North Coast District.

ALLEN F. GILLIHAN, M.D., State District Health Officer, Santa Rosa.

During the month of October Dr. Gillihan spent most of his time in Crockett in investigating the outbreak of smallpox in Vallejo, Crockett and vicinity. A lecture was given by him before the Home Service Institute of the Pacific Division of the American Red Cross, in San Francisco. Dr. Gillihan attended the conference of health officers at Los Angeles and Riverside in the early part of the month. Other cities visited were Benicia, Vallejo, Napa and Berkeley.

Northern District.

HAROLD F. GRAY, Gr.P.H., State District Health Officer, Chico.

Mr. Gray attended the conference of health officers at Los Angeles during the early part of the month. He investigated the influenza epidemic at Marysville and Roseville, and also dysentery at Penryn and diphtheria at Hobart Mills. A visit was made to the Fair Oaks Mosquito Abatement District, and to the following cities during the month: Redding, Anderson, Cottonwood, Red Bluff, Los Molinos, Oroville, Wheatland, Marysville, Biggs, Lincoln, Loomis, Auburn, Truckee, Colfax, Sacramento, Woodland, Grass Valley and Hamilton City.

Central District.

RALPH W. NAUSS, M.D., State District Health Officer, Fresno.

During the month of October an inspection was made of the Yosemite Lumber Company at Merced Falls. A consultation was held with local health authorities in Fresno with reference to the epidemic of influenza. Other cities visited by Dr. Nauss during the month were Visalia, Porterville, Bakersfield, Tulare, Exeter, Corcoran, Hanford, Madera, Merced, Modesto, Manteca, Stockton, Sacramento, Tracy, Livermore, Alameda, Hollister, San Jose, Santa Clara and Oakland.

Southern District.

DR. GAVIN J. TELFER, State District Health Officer, Riverside.

Dr. Telfer attended the conference of health officers at Riverside, and also visited the following cities during the month: San Bernardino, Upland, Los Angeles, Corona, Perris, Hemet, San Jacinto, Beaumont, Banning, Thermal, Coachella, Indio, Claremont, Colton, Visalia, Maricopa, and Fellows.

South Coast District.

Considerable time was spent by Mr. Ingham in investigating the epidemic of influenza in the various cities of the district. The cities visited by Mr. Ingham during October were Escondido, Camp Kearny, San Diego, Del Mar and Santa Ana. Mr. Ingham also attended the conference of health officers at Riverside.

MORBIDITY REPORTS FOR MONTH OF OCTOBER, 1918.**Scarlet Fever.**

An outbreak of scarlet fever occurred in Mendocino County, involving a total of fifteen cases.

Smallpox.

A mild case of smallpox diagnosed as chickenpox was the means of spreading this dread disease and caused a total of 32 cases in the vicinity of Crockett, Contra Costa County. One of the smallpox victims went over to Benicia and caused a total of 20 cases in Solano County in the vicinity of Benicia and Vallejo. During the month of October there were a total of 105 cases of smallpox reported, of which only 11 cases had any previous vaccination history and those were more than seven years preceding the smallpox attack.

Anthrax.

Three cases of this disease were reported in human beings as follows: Butte County 1, Chico 1, Winters 1.

Hookworm.

Eleven cases of this disease were reported—4 Amador County, 7 Mare Island Navy Yard. The latter cases were discovered in the men when they came for their physical examination.

Leprosy.

One case was reported from San Diego city and one from San Francisco.

Meningitis.

Twelve cases were reported as follows: Richmond 1, Hanford 1, Los Angeles County 1, Los Angeles city 1, Watts 1, San Francisco 2, Stockton 1, Camp Fremont 1, San Mateo city 1, Redding 1, Solano County 1.

Morbidity for October, 1918, by Weeks.

	Weeks ending—					Total, October, 1918	Total, October, 1917
	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 2		
Anthrax -----	3					3	7
Beri-beri -----							
Cerebrospinal meningitis ..	2	2	3	4	1	12	6
Chickenpox -----	33	33	30	6	17	119	278
Cholera, Asiatic -----							
Dengue -----		1				1	
Diphtheria -----	59	74	98	76	81	388	298
Dysentery -----	2	3	2		1	8	13
Erysipelas -----	6	4	3	1		14	29
German measles -----	1	3	10	3		17	60
Glanders -----							
Gonococcus infection -----	139	133	55	80	51	458	298
Hookworm -----	11					11	
Leprosy -----		1	1			2	4
Malaria -----	36	15	6	13	4	74	141
Measles -----	139	191	93	50	22	495	310
Mumps -----	142	180	124	104	16	566	578
Ophthalmia neonatorum -----							
Paratyphoid -----							
Pellagra -----	1	2	1			4	2
Plague -----							
Pneumonia -----	61	301	687	490	171	1,710	176
Poliomyelitis -----	1	1	1	1	3	7	9
Rabies -----							
Rocky Mountain spotted fever -----							
Scarlet fever -----	50	47	25	21	49	192	386
Smallpox -----	36	24	9	29	7	105	16
Syphilis -----	62	89	44	18	44	257	170
Tetanus -----							5
Trachoma -----		1		4		5	14
Trichinosis -----							
Tuberculosis -----	252	126	159	119	101	757	700
Typhoid fever -----	38	29	18	10	8	103	196
Typhus fever -----							
Whooping cough -----	46	40	24	5	13	128	322
Yellow fever -----							
Totals -----	1,120	1,300	1,393	1,034	589	5,436	4,018
Influenza -----	794	8,040	28,863	45,069	39,691	122,457	

REPORT OF THE BUREAU OF COMMUNICABLE DISEASES FOR SEPTEMBER, 1918.

FRANK L. KELLY, M.D., Gr.P.H., Director.

DIVISION OF PARASITOLOGY.

WILLIAM W. CORT, Ph.D., Consulting Helminthologist.

During the month of September fifty-three more examinations for hookworm were made of miners from the copper mines of Shasta County. Two positive cases were found. This completes the survey of this region for hookworm as far as it can be carried at the present time. No evidence has been found that any of the cases were contracted in the copper mines.

Inspections by Mr. A. M. Bean, Field Agent of the Division of Parasitology, were made of the underground toilet facilities of the mines in Amador County where hookworm is epidemic. A great improvement was found in conditions. The toilets in all the mines were found in condition for use and practically no evidence of soil pollution was found. This is very encouraging in view of the extensive soil pollution found in these mines in earlier inspections. A complete re-examination of all the men working underground in the mines of Amador County is planned, to start in December when the hookworm certificates of the miners will have expired. Labor conditions are such in this region that many of the mines have closed down, and the others are working with very reduced forces. This reduction of the number of men exposed to possible hookworm infection will help in the eradication of the disease.

Preliminary arrangements for the work of making fecal examinations among the Orientals of the Delta region are now completed. It is expected that next month's report will show a number of examinations from this region.

Investigations of the staff of the Division of Parasitology on the possibilities of the spread of amœbic dysentery in California are now nearing completion and will be ready for publication in the near future.

Summary of Examinations Made in the Laboratory of Parasitology of the State Board of Health During the Month of September.

	Positive	Negative	Total
Hookworm in mines-----	2	51	53
Re-examination after treatment for hookworm----	1	1	2
Examinations for intestinal worms—			
Miscellaneous -----		6	6
Trichuris trichuria -----	1		1
Strongyloides stercoralis -----	1		1
Examinations for intestinal protozoa-----		1	1
Totals -----	5	59	64

Division of Biological Examinations.

Summary of Examinations Made in the California State Hygienic Laboratory During the Month of September, 1918.

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley—				
Anthrax -----	1	7		8
Diphtheria (diagnosis) -----	8	28	*5	41
Diphtheria (release) -----	3	9		12
Dysentery -----		2		2
Gonococcus infection -----	23	19	15	57
Malaria -----	1	15		16
Rabies -----		4	1	5
Syphilis (Wassermann) -----	37	249	28	314
Tuberculosis (sputum) -----	6	28		34
Tuberculosis (spinal fluid) -----		1		1
Typhoid (Widal test) -----	13	27	4	44
Paratyphoid (Widal test) -----		1	1	2
Typhoid (excreta) -----	2	7		9
Miscellaneous -----				1
				546
Northern Branch at Sacramento—				
Diphtheria (diagnosis) -----		3		3
Diphtheria (unmarked) -----		2		2
Gonococcus infection -----				
Malaria -----	2	4		6
Tuberculosis (sputum) -----	4	4		8
Typhoid (Widal) -----	1	10		11
				30
Southern Branch at Los Angeles—				
Water examinations -----				65
Anthrax -----				
Diphtheria (diagnosis) -----	17	52	†6	75
Diphtheria (release) -----	15	9	†2	26
Gonococcus infection -----	7	15	3	25
Leprosy -----		1		1
Meningitis -----			1	1
Rabies -----		1		1
Tuberculosis (sputum) -----	3	17		20
Typhoid (Widal) -----	12	11	2	25
Typhoid (feces) -----		1		1
				240
Total number of examinations -----				816

*3 no growth.

†2 no growth.

Division of Epidemiological Investigations.

Epidemiological Investigations and Other Special Investigations During September, 1918.

Main Laboratory at Berkeley—

Completed investigation on typhoid at Napa.

Division of Preventive Therapeutics.*Pasteur Treatments for the Prevention of Rabies by the State Hygienic Laboratory
During the Month of September, 1918.*

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley.....	0	5
Northern Branch at Sacramento.....	0	0
Southern Branch at Los Angeles.....	0	7
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist	0	0
Laboratory of San Diego City Board of Health, by depu- tized bacteriologist	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist.....	0	0

*Vaccine Issued by the State Hygienic Laboratory During the Month of
September, 1918.*

Typhoid vaccine—	
Number of physicians to whom vaccine was sent.....	5
Number of complete treatments sent.....	19

Mixed typhoid paratyphoid vaccine—	
Number of physicians to whom vaccine was sent.....	10
Number of complete treatments sent.....	112

*Ophthalmia Neonatorum Prophylactic Outfits Distributed During the Month of
September, 1918.*

Number of outfits, containing two ampoules each, issued.....	263
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Public Health Instruction.*Participation in Instruction in Public Health During September, 1918.*

Main Laboratory at Berkeley—	
Bacteriological instruction outfits sent out.....	2
Bacteriological instruction outfits in use.....	26

**REPORT OF THE BUREAU OF COMMUNICABLE DISEASES
FOR OCTOBER, 1918.**

FRANK L. KELLY, M.D., Director.

Smallpox at Crockett.

During October one of the district health officers called the attention of the bureau to the presence of smallpox at Crockett. An investigation was made which showed at least two hundred and fifty cases of the disease had developed since last March. There had been some dispute as to whether the disease was chickenpox or smallpox, but chickenpox had finally been settled upon. A great proportion of the population contracted the disease between March and the time the investigation was made, but none were quarantined, nor was vaccination insisted upon.

Cases of smallpox in six or eight different cities were traced directly to contact with cases at Crockett. Probably one of the most important facts brought out by the investigation was that none of these cases at Crockett had been

reported even as chickenpox. This disease is reportable and physicians and health officers are violating the law when such cases are not reported. There are several important facts that should be impressed on health officers and which are well illustrated by this epidemic:

1. All cases of smallpox should be thoroughly investigated as to the source of the infection. (The unearthing of smallpox at Crockett was brought about by a careful investigation of *one* case at Napa.)

2. All cases of chickenpox should be reported. (Had this been done the attention of the State Board of Health would undoubtedly have been called to this outbreak sooner than it was.)

3. When a case at all suspicious of smallpox is found it should be quarantined and all contacts vaccinated. (Had this been done the disease would have been stamped out when it first started.)

Division of Biological Examinations.

Summary of Examinations Made in the California State Hygienic Laboratory During the Month of October, 1918.

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley—				
Anthrax -----	1	4		5
Diphtheria (diagnosis) -----	24	61	*3 7	92
Diphtheria (release) -----	12	38	*3 3	53
Diphtheria, culture group from Hobart Mills -----	3	39	*1 1	43
Gonococcus infection -----	12	8	4	24
Influenza -----	10	13		23
Malaria -----		11		11
Pneumonia -----	2	1		3
Rabies -----	2	1		3
Syphilis -----	25	181	6	212
Tuberculosis (sputum) -----	7	57		64
Typhoid (Widal) -----	11	30	6	47
Typhoid (feces) -----		5		5
Miscellaneous -----				10
				595
Northern Branch at Sacramento—				
Diphtheria (diagnosis) -----	2	12		14
Diphtheria (release) -----		3		3
Malaria -----		1		1
Tuberculosis -----	1	4		5
Typhoid (Widal) -----		4		4
				27
Southern Branch at Los Angeles—				
Anthrax -----				
Diphtheria (diagnosis) -----	39	79	*6 12	130
Diphtheria (release) -----	44	49	*7 10	103
Gonococcus infection -----	10	11	3	24
Rabies -----		1		1
Tuberculosis (sputum) -----	8	8		16
Typhoid (Widal) -----	15	13	2	30
Typhoid (feces) -----		2		2
Miscellaneous -----				1
Water examinations -----				23
Diphtheria, school investigation at San Bernardino -----	22	207	*26 41	270
				600
Total number of examinations -----				1,222

*No growth.

Division of Epidemiological Investigations.*Epidemiological Investigations and Other Special Investigations During October, 1918.***Main Laboratory at Berkeley—**

Investigation of smallpox in Crockett.

Investigation of influenza in Dunsmuir.

Investigation of influenza in Palo Alto.

Division of Preventive Therapeutics.*Pasteur Treatments for the Prevention of Rabies by the State Hygienic Laboratory During the Month of October, 1918.*

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley-----	0	0
Northern Branch at Sacramento-----	0	0
Southern Branch at Los Angeles-----	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist -----	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist -----	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist -----	0	0
Laboratory of San Diego City Board of Health, by depu- tized bacteriologist -----	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist -----	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist-----	0	0

*Vaccine Issued by the State Hygienic Laboratory During the Month of October, 1918.***Typhoid vaccine—**

Number of physicians to whom vaccine was sent----- 5

Number of complete treatments sent----- 178

Mixed typhoid paratyphoid vaccine—

Number of physicians to whom vaccine was sent----- 8

Number of complete treatments sent----- 143

Ophthalmia Neonatorum Prophylactic Outfits Distributed During the Month of October, 1918.

Number of outfits, containing two ampoules each, issued----- 336

Public Health Instruction.*Participation in Instruction in Public Health During October, 1918.***Main Laboratory at Berkeley—**

Bacteriological instruction outfits sent out----- 0

Bacteriological instruction outfits in use----- 20

REPORT OF THE BUREAU OF TUBERCULOSIS FOR
SEPTEMBER AND OCTOBER, 1918.

MRS. E. L. M. TATE-THOMPSON, Director.

The Southwestern Conference on Tuberculosis at its annual meeting in Denver decided for the present to bury the Kent and Hillard bills. Though a decided leaning towards the Kent bill was obvious for the reason that the War Risk Insurance Bureau has gone further than the idea of the federal subsidy, viz, to place patients in hospitals reaching certain standards for care and treatment, paying also the transportation to and from the institution.

A resolution which was unanimous was presented; it embodies what both Kent and Hillard bills asked for, *i.e.*, a division of tuberculosis in the Public Health Service, with the hope that the division once created with adequate funds and *personnel* that a solution can be reached whereby the migratory indigent may be provided means for care and treatment.

California has suffered more on account of the location of its camps and cantonments than the other southwestern states, but one must get away from California for a perspective of the machinery we have; it is extremely gratifying to know we are *not* running on a flat tire and that supervisors, public health nurses and Red Cross workers have kept step with a problem that no other state in the Union has had to face.

That tuberculosis, when peace comes, will be the most serious of our health problems is conceded; that in spite of adequate governmental provision, men long overseas will want to be near their families is also conceded; picture then the satisfaction of the counties in this state who are providing faster than we can build them, first-class sanatoria for their soldiers; and picture, too, but you who have not been in the base hospitals and have seen the smiles on the lips of the men who have good hospitals in their own counties do not know what it means, for them to be near home. The Southwest will continue to lure those whom the White Plague has touched and the day is perhaps not far distant when the government instead of placing a Croix de Guerre, or a distinguished Service Cross, upon these men who have contracted tuberculosis in line of duty will say instead, "Migrate if you must into the sunshine of the great Southwest"—and in return for days and nights spent in the rain and mud fighting for democracy any hospital can afford to open its doors to these undecorated heroes of the Great War, and the best of care and treatment will be at their disposal.

The soldiers who have been placed by the War Risk Bureau in our various sanatoria have broken the monotony in more ways than one.

Seated one night not long ago at the Barlow Sanatorium in Los Angeles—out of the stillness came the long low sound of taps; one by one the lights in the buildings were extinguished and when I exclaimed, "how fine the system was," the superintendent told me the soldiers had not only introduced the bugle calls for reveille and taps, but that "kitchen police" had become popular, an unheard of thing in sanatorium life. Back of it all lies the spirit of the new organization known as the Barlow Sanatorium Welfare Association formed to promote the spirit of the institution.

Stonybrook, Kern County's new sanatorium, is as beautiful in its setting and equipment as anyone could wish—the delay in opening due to slowness in receiving the equipment.

The Ahwanee property will be purchased if there is an adequate water supply. Men are at work now, pumping out, two weeks.

It is disappointing to report that the time and energy spent in the Northern District working on the joint county hospital should have been spoiled by local jealousies. Mendocino, Sonoma and Napa made their appropriations; later another attempt will be made to bring Napa and Sonoma counties together.

Hospitals Inspected.

San Diego
Imperial
San Bernardino
Kern

Los Angeles
Fresno
San Francisco

Sites Inspected.

Ahwanee, Madera County
McCrays (2) Sonoma County

**REPORT OF THE BUREAU OF SOCIAL HYGIENE FOR
SEPTEMBER AND OCTOBER, 1918.**

LEWIS MICHELSON, M.D., Director.

A major portion of the federal appropriation for venereal disease control work will be expended along the lines of medical treatment. This fund will be utilized in increasing the number of free clinics, and in aiding those already established to improve their services. It is particularly desirable that night clinics should be initiated and social service follow-up work stimulated. The plan of distributing will vary according to the needs of the clinics. Some clinics will receive a certain subsidy per patient, while to others a certain sum will be appropriated. The appropriation of this money will be conditioned upon the clinics following out certain requirements of this bureau. In most cases at least a like sum of similar amount will be required of these clinics. The educational program of the bureau will be amplified and many phases developed, particularly along the lines of public administration.

In line with the requirements of the Kahn-Chamberlin Bill, Dr. Allen Winter, formerly in charge of the venereal disease control work for Los Angeles County, was appointed Acting Assistant Surgeon of the United States Public Health Service, and detailed to this bureau. This position will make for closer co-operation between the bureau and the Public Health Service, and will bring the backing of the federal government to this bureau. Through this co-operation the plans under consideration by which the reporting of venereal diseases by physicians will be greatly facilitated, and expense will be materially lessened.

The Public Health Service will also aid in bringing pressure to bear on public officials wherever they are delinquent in carrying out any of the provisions for the control of venereal diseases. Their Law Enforcement Division will aid in the preparation and passage of laws required for this work.

A most important duty has already been worked out through this arrangement. The Public Health Service requested this bureau to organize the state for lectures on venereal diseases to be given to all registrants under Class 1. This work is in co-operation with the War Department, and the Provost Marshal General of the Army is most active in seeing that this measure is carried through. Lecturers have been provided for 125 local boards, and syllabi and necessary data distributed to the lecturer. The pamphlet "Come Clean" prepared by the United States Public Health Service was provided to every registrant called. This work has been greatly simplified by the co-operation of Adjutant General Borree.

Mrs. Elizabeth McManus, a member of the Los Angeles Social Service Commission, has been appointed Social Service Director for the bureau. Mrs. McManus has been engaged in social service work for fourteen years, and is recognized throughout the South as one of the foremost organizers in this line of endeavor. She organized the Public School Dispensary of Los Angeles and directed its activities for seven years, during which time 17,000 school children were under its direct control. At present she is a member of the executive council of the California Conference of Social Agencies, and a member of the committee appointed by the Women's Legislative Council of California to draft a bill for an Industrial Farm for Delinquent Women.

Dr. Samuel A. Goldman has been appointed lecturer for the bureau on sex hygiene and venereal diseases. Dr. Goldman was formerly lecturer for the American Social Hygiene Society for several years. He has given lectures for this bureau since its inception, and has been most enthusiastically commended by camp commanders. Dr. Goldman's lectures are illustrated with lantern slides. It is hoped that the appointment of a regular lecturer for this bureau will stimulate different bodies in their desires to have groups of persons addressed. This bureau will provide a lecturer at any time, upon request. No charge will be made for his services.

An exhibit by this bureau was shown to over 40,000 people at the Oakland Land Show from September 9 to September 21. The stereomotorgraph attracted particular interest, and was the center at all times of interested groups. Such an exhibit undoubtedly stimulates public opinion. This was shown by the great number of inquiries this bureau received as a result. Three of the posters shown were painted by Mr. Roy C. Young and donated to the bureau.

Demand for the "Fit to Fight" film has been so great that a second film has been purchased and will be used in the South. The influenza epidemic, of course, decreased the opportunity to exhibit the film, but it is hoped that the itinerary which includes the large industrial concerns can shortly be carried through.

Owing to the influenza epidemic in San Francisco, and the need there for all possible hospital facilities, the women of Ward L were transferred to the Old Isolation Hospital. As soon as the epidemic subsides, the City Health Department will proceed to renovate this hospital and establish a venereal disease unit. Rehabilitation work will be an important feature.

Tabulation of Examinations Made by City Health Department in San Francisco for the Year August 29, 1917, to August 29, 1918.

Number times examined	Individuals examined	Number of examinations
Once -----	993	993
Twice -----	134	268
Three -----	43	129
Four -----	24	96
Five -----	8	40
Six -----	7	42
Seven -----	1	7
Eight -----	2	16
Nine -----	4	36
Ten -----	2	20
Twelve -----	1	12
Totals -----	1,219	1,659

Findings of examinations follows:

Diseases (women)	Found infected	Sent to hospital
Gonorrhœa -----	248	248
Syphilis—		
Positive Wasserman, but no lesions ----- 361		
Positive Wasserman, and lesions ----- 41	402	41
Total syphilis and gonorrhœa -----	650	289

Percentage of women examined found infected:

With syphilis 33 per cent.

With gonorrhœa 20 per cent.

With syphilis and gonorrhœa, or both, 53 per cent.

Data regarding men examined:

Number men examined 96.

Found infected with gonorrhœa 4.

Found infected with syphilis 9.

Percentage of men (arrested in company with prostitutes or allied charged) found infected with venereal disease .09 per cent.

Data Regarding Women Examined.

Nationality of women examined:

American	1019
French	69
Canadian	23
Irish	16
English	9
German	7
Italian	7
Mexican	6
Belgian	6
Swedish	7
Scotch	5
Porto Rican	5
Russian	4
Finnish	3
Austrian	3
Polish	3
Chinese	3
Hawaiians	4
Swiss	3
Portugese	2
Australian	2
Rumanian	2
South American	2
Bohemian	2
Armenian	1
Alsatian	1
Peruvian	1
Algerian	1
Norwegian	1
Danish	1
Spanish	1
Social status:	
Single	641
Married	403
Widowed	75
Divorced	100

Nationality of Men Examined.

American	80	Swedish	2
Japanese	2	Finnish	1
Greek	3	Danish	2
German	2	Italian	4

Negroes.

Number examined	86
Number found infected with gonorrhœa	21
Number found infected with syphilis	41
Number found infected with both gonorrhœa and syphilis	9
Total number infected	71
Percentage infected	83

Arsenobenzol Distributed by the Bureau During September, 1918.

San Francisco Health Department	135
Los Angeles Health Department (City)	125
Los Angeles County Health Department	100
San Diego Health Officer	50
San Bernardino County Hospital	50
Fresno County Hospital	50
Selwyn Graves Memorial Dispensary	32
University of Southern California Medical School	30
Stanford University Clinic	24
Sacramento Isolation Hospital	20
University of California Hospital	12
Santa Barbara Cottage Hospital	12
Boyle Heights Dispensary	12
Stanislaus County Health Officer	9
Oakland College of Medicine and Surgery	4
Tulare County Hospital	4
College of Physicians and Surgeons, San Francisco	3
Shasta County Hospital	3
Tehama County Hospital	2

Total 677

Treatment reports received:

170 patients received one dose	170
76 patients received two doses	152
38 patients received three doses	114
10 patients received four doses	40
7 patients received five doses	35

301 511

Ampoules wasted 5

516

Other occupations	112
Housewives	74
Laborers	52
Students	33
Prostitutes	28
No occupations	2

301

Females	175
Males	126

301

Patients treated:

Los Angeles County Hospital	80
San Francisco Hospital	35
Los Feliz Hospital, Los Angeles	27
Juvenile Hospital, Los Angeles	17
San Bernardino General Hospital	16
Sacramento Isolation Hospital	16
Temple Block Clinic, Los Angeles	16
Selwyn Graves Memorial Dispensary, Los Angeles	15
Stanford University Clinic	13
Mission Valley Hospital	13
Santa Clara County Hospital	10
Fresno City Clinic	6
Stanislaus Health Officer	6
Boyle Avenue Dispensary	5
Alameda County Hospital	4

Patients treated:

Fresno County Hospital	4
Santa Barbara Cottage Hospital	4
Shasta County Hospital	3
Pasadena Hospital Association	2
Oakland College of Medicine and Surgery	2
Redwood City Detention Home	2
Fairhaven Home for Girls, Sacramento	1
Tehama County Hospital	1
Riverside County Hospital	1
Berkeley Dispensary	1
Los Angeles County Jail	1
	<hr/> 301

Total number of arsenobenzol ampoules distributed	4613
Total number of treatment cards received	3171
Total number of treatment cards distributed and not returned	1442
	<hr/> 4613

Arsenobenzol Distributed by the Bureau During October, 1918.

San Francisco Health Department	99
Los Angeles Health Department (City)	90
San Diego Health Officer	50
Kern County Health Officer	50
Stanford University Clinic	24
Oakland Health Department	12
Butte County Health Officer	1
	<hr/>
Total	326

Treatment reports received:

97 patients received one dose	97
52 patients received two doses	104
38 patients received three doses	114
19 patients received four doses	76
12 patients received five doses	60
10 patients received six doses	60
3 patients received seven doses	21
2 patients received nine doses	18
1 patient received ten doses	10
	<hr/>

234	560
Ampoules wasted	3
	<hr/> 563

Other occupations	76
No occupation	49
Housewives	41
Prostitutes	36
Laborers	23
Students	9
	<hr/> 234

Females	158
Males	76
	<hr/> 234

Patients treated:

San Francisco Health Department	95
San Diego Health Department	53
Temple Block Clinic, Los Angeles	27
Stanford University Clinic	18
Los Angeles Health Department	16
Boyle Heights Dispensary	6
Alameda County Hospital	4
Oakland College of Medicine and Surgery	4
Santa Barbara Cottage Hospital	3
College of Physicians and Surgeons, San Francisco	3
Shasta County Hospital	1
Kern County Hospital	1
Visalia County Hospital	1
Yuba County Hospital	1
Fresno City Clinic	1
	<hr/> 234

Total number of arsenobenzol ampoules distributed	4939
Total number of treatment cards received	3734
Total number of treatment cards distributed and not returned	1205
	<hr/> 4939

REPORT OF THE BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

Infant Mortality by Months.

Final figures for 1917, revised for the month of occurrence of births and infantile deaths, show variances in infant mortality by months as indicated by the following table:

Month of occurrence	Total live births	Deaths under one year	Infant mortality rate per 1,000 births
State totals	52,230	4,081	78
January	4,328	398	92
February	3,995	348	87
March	4,504	354	79
April	4,344	292	67
May	4,295	298	69
June	4,249	352	83
July	4,560	359	79
August	4,403	328	74
September	4,338	342	79
October	4,466	370	83
November	4,214	311	74
December	4,534	329	73

The infant mortality rate ranged from only 67 in April and 69 in May to 87 in February and 92 in January. Other months besides April and May with relatively low infant mortality rates were August and November, each 74, and December, 73. On the other hand, the proportion of infantile deaths per 1,000 births was relatively high, 83, for both June and October in addition to January and February as stated.

Births, Deaths and Marriages for August.*

State, Totals and Annual Rates. The following table shows for California as a whole, the birth, death and marriage totals for the current month of the year to date in comparison with corresponding figures for last year, as well as the annual rates per 1,000 population represented by the totals for the current month and the year to date. The rates are based on an estimated midyear population of 3,129,584 for California in 1918, the estimate having been made by the United States Census Bureau method with slight modifications.

Birth, Death and Marriage Totals, with Annual Rate per 1,000 Population, for Current Month and Year to Date, for California: August.

Month or period	Total		Annual rate per 1,000 population, 1918
	1918	1917	
August—			
Births -----	4,864	4,472	18.2
Deaths -----	3,166	3,047	11.9
Marriages -----	3,169	3,078	11.9
January to August—			
Births -----	36,743	33,429	17.6
Deaths -----	28,525	28,293	13.7
Marriages -----	22,181	23,302	10.6

The three totals for August, 1918, show an increase over August, 1917, the most notable being births with a gain of 392.

For the period, January to August, 1918, a gain of 3,314 is shown for births over the same period for 1917. The death total for the same eight months shows an increase of 132; and the marriage total a decrease of 1,121.

Length of Residence. The length of residence in California for the 3,166 decedents in May was as follows: Under 1 year, 218, or 6.9 per cent; 1 to 9 years, 589, or 18.6 per cent; 10 years and over, 1,383, or 43.7 per cent; life, 822, or 25.9 per cent; and unknown, 154, or 4.9 per cent. For residents of the 70 cities of 2,500 population in 1910, there were births and deaths which occurred in registration districts other than the city of residence.

County Marriage Totals. The counties showing the highest marriage totals for the month were as follows: San Francisco, 632; Los Angeles, 614; Alameda, 326; Orange, 144; San Diego, 144; Santa Clara, 132; Sacramento, 112; San Joaquin, 90; San Bernardino, 81; Fresno, 74; Riverside, 71; San Mateo, 69; Marin, 53; Sonoma, 50; and Santa Barbara, 47. The aggregate for Los Angeles and Orange counties together was 758, against 1,104 for San Francisco and other bay counties.

County Birth and Death Totals. Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
Los Angeles -----	1,180	840	Contra Costa -----	94	34
San Francisco -----	796	506	Orange -----	93	58
Alameda -----	509	301	Stanislaus -----	74	26
Fresno -----	202	102	Riverside -----	70	35
Santa Clara -----	172	127	Kern -----	68	61
San Diego -----	166	148	Sonoma -----	67	54
Sacramento -----	154	89	Humboldt -----	64	23
San Joaquin -----	130	98	Ventura -----	60	22
San Bernardino -----	99	84	Santa Barbara -----	59	31
Tulare -----	97	38	San Mateo -----	53	42

*The present report is for the month preceding but two. This order must be followed because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the next preceding month is completed.

City Birth and Death Totals. Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births	Deaths	City	Births	Deaths
San Francisco -----	796	506	San Jose -----	65	33
Los Angeles -----	750	554	Alameda -----	48	22
Oakland -----	341	173	San Bernardino -----	38	24
San Diego -----	132	113	Bakersfield -----	37	31
Sacramento -----	107	77	Eureka -----	37	14
Stockton -----	84	63	Santa Barbara -----	36	18
Long Beach -----	81	42	Vallejo -----	30	9
Berkeley -----	74	51	Richmond -----	29	12
Fresno -----	68	40	Riverside -----	28	16
Pasadena -----	66	44	Santa Monica -----	26	9

Causes of Death. The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths for Current and Preceding Month, for California: August.

Cause of death	Deaths August	Proportion per 1,000	
		August	July
All causes -----	3,166	1,000.0	1,000.0
Typhoid fever -----	24	7.6	6.0
Malarial fever -----	3	0.9	2.6
Smallpox -----			0.3
Measles -----	4	1.3	1.3
Scarlet fever -----	4	1.3	1.0
Whooping cough -----	24	7.6	13.0
Diphtheria and croup -----	10	3.2	4.1
Influenza -----	2	0.6	2.2
Other epidemic diseases -----	7	2.2	5.7
Tuberculosis of lungs -----	376	118.7	120.6
Tuberculosis of other organs -----	50	15.8	14.0
Syphilis and gonorrhea -----	21	6.6	5.4
Cancer -----	285	90.0	81.3
Other general diseases -----	78	24.6	33.0
Meningitis -----	27	8.5	8.9
Other diseases of nervous system -----	315	99.5	91.4
Diseases of circulatory system -----	514	162.3	164.4
Pneumonia and broncho-pneumonia -----	171	54.0	49.2
Other diseases of respiratory system -----	55	17.4	16.8
Diarrhea and enteritis, under 2 years -----	95	30.0	38.1
Diarrhea and enteritis, 2 years and over -----	26	8.2	9.5
Other diseases of digestive system -----	180	56.9	57.5
Bright's disease and nephritis -----	244	77.1	74.9
Childbirth -----	29	9.2	9.9
Diseases of early infancy -----	132	41.7	38.7
Suicide -----	63	19.9	17.8
Other violence -----	310	97.9	90.2
All other causes -----	117	37.0	42.2

In August there were 514 deaths, or 16.2 per cent of all, from diseases of the circulatory system; and 426, or 13.4 per cent from the various forms of tuberculosis.

Other notable causes of deaths for the month were as follows: Violent causes (suicide, accident, etc.) 374; diseases of the nervous system, 342; diseases of the digestive system, 301; cancer, 285; Bright's disease and nephritis, 244; and epidemic diseases, 78.

The deaths from epidemic diseases were as follows: Typhoid fever, 24; whooping cough, 24; diphtheria and croup, 10; measles, 4; scarlet fever, 4; and other epidemic diseases, 12.

The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

	Typhoid fever		Whooping cough		Diphtheria and croup
Alameda -----	2	Alameda -----	4	Alameda -----	1
Contra Costa -----	1	Kern -----	2	Fresno -----	1
Fresno -----	1	Kings -----	1	Los Angeles -----	2
Inyo -----	1	Los Angeles -----	8	San Diego -----	1
Kern -----	1	Mendocino -----	1	San Francisco -----	3
Los Angeles -----	6	Orange -----	2	Santa Barbara -----	1
Riverside -----	2	Riverside -----	1	Sutter -----	1
Sacramento -----	3	San Bernardino -----	2		—
San Bernardino -----	1	Santa Cruz -----	1		10
San Francisco -----	3	Tulare -----	2		
San Joaquin -----	1		—		
San Luis Obispo -----	1		24		
Tulare -----	1				
	—				
	24				

Sex, Race and Nativity. The proportion of the sexes among the 3,166 decedents in August was: male, 1,941, or 61.3 per cent; and female, 1,225, or 38.7 per cent.

The race distribution of decedents was: white, 2,959, or 93.5 per cent; Chinese, 68; Japanese, 68; negro, 54; and Indian, 17.

The 2,959 white decedents were classified by nativity as follows: California, 759, or 25.7 per cent; other states, 1,236, or 41.8 per cent; foreign born, 877, or 29.6 per cent; and unknown, 87, or 2.9 per cent.

Infant Mortality. There were 321 deaths for children under 1 year, which were distributed by age in months as follows: Under 1 month, 161, or 50.1 per cent; 1 to 2 months, 48, or 15.0 per cent; 3 to 5 months, 48, or 15.0 per cent; and 6 to 11 months, 64, or 19.9 per cent.

In certain cities the deaths under 1 year were as follows: Los Angeles, 48; San Francisco, 35; and Oakland, 13.

The 321 deaths under 1 year in comparison with the 4,864 live births reported for the month show an infant mortality ratio of 66 per 1,000 births.

For the same month last year there were 333 deaths under 1 year of age, which compared with the 4,472 live births reported, made an infant mortality ratio of 74 per 1,000.

Causes of Death. The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for California; October and September.

	Deaths		Proportion per 1,000	
	October	September	October†	September
All causes -----	8,721	3,092	1,000.0	1,000.0
Typhoid fever -----	28	17	3.2	5.5
Malarial fever -----	12	8	1.4	2.6
Smallpox -----				
Measles -----		2		0.6
Scarlet fever -----	3		0.4	
Whooping-cough -----	15	22	1.7	7.1
Diphtheria and croup -----	17	20	2.0	6.5
Influenza -----	*4,420	8	506.8	2.6
Other epidemic diseases -----	17	14	2.0	4.5
Tuberculosis of lungs -----	479	358	54.9	115.8
Tuberculosis of other organs -----	54	60	6.2	19.4
Cancer -----	260	262	29.8	84.7
Syphilis and gonorrhœa -----	23	24	2.6	7.8
Other general diseases -----	117	108	13.4	34.9
Meningitis -----	15	34	1.7	11.0
Other diseases of nervous system -----	322	276	36.9	89.3
Diseases of circulatory system -----	611	498	70.1	161.0
Pneumonia and broncho-pneumonia -----	*961	195	110.2	63.1
Other diseases of respiratory system -----	88	43	10.1	13.9
Diarrhea and enteritis, under 2 years -----	114	80	13.1	25.9
Diarrhea and enteritis, 2 years and over -----	29	42	3.3	13.6
Other diseases of digestive system -----	224	194	25.7	62.7
Bright's disease and nephritis -----	214	188	24.5	60.8
Childbirth -----	36	32	4.1	10.3
Diseases of early infancy -----	172	142	19.7	45.9
Suicide -----	85	54	9.8	17.5
Other violence -----	268	285	30.7	92.2
All other causes -----	137	126	15.7	40.8

*Total for influenza and pneumonia together is 5,381, or proportion of 617.0 per 1,000 total deaths.

†Proportionate distribution affected greatly by exceptionally large number of deaths from influenza and pneumonia.

Classification of October Deaths from Influenza and Pneumonia.

The returns for October included 4,420 deaths from influenza and 961 from pneumonia (all forms), or a total of 5,381 from influenza and pneumonia together.

The 5,381 deaths from influenza and pneumonia comprised 3,541 males, or 65.8 per cent, as compared with only 1,840 females, or merely 34.2 per cent. Altogether 5,080, or 94.4 per cent of all, were Caucasians, with only 162 Japanese, 57 Negroes, 46 Chinese, and 36 Indians. The 5,080 of the white race were distributed by nativity as follows: California, 1,651, or 32.5 per cent; other states, 1,572, or 31.0 per cent; foreign countries, 1,677, or 33.0 per cent; and unknown, 180 or 3.5 per cent.

The deaths from influenza and pneumonia occurred largely among persons in the twenties and thirties. Of the whole 5,381 deaths reported for October no less than 1,860, or 34.6 per cent, were at 30 to 39 years, with as many as 1,617, or 30.0 per cent, at 20 to 29 years. Thus 3,477 deaths, or nearly two-thirds of all (64.6 per cent), occurred at 20 to 39 years.

Deaths from influenza and pneumonia in October were as follows: 40 to 49 years, 581; 10 to 19 years, 401; 1 to 4 years, 261; 50 to 59 years, 192; under 1 year, 165; 60 to 69 years, 116; 70 years and over, 101; and 5 to 9 years, 87.

Births, Deaths and Marriages for October and September.*

Birth, Death and Marriage Totals, With Annual Rate per 1,000 Population, for Current Months and Year to Date, for California: October and September.

Month or period	Total		Annual rate per 1,000 population, 1918
	1918	1917	
October—			
Births -----	4,479	4,508	16.8
Deaths -----	8,721	3,215	32.8
Marriages -----	2,200	2,865	8.3
September—			
Births -----	4,991	4,331	19.4
Deaths -----	3,092	3,076	12.0
Marriages -----	3,654	3,066	14.2
January to October—			
Births -----	46,213	42,268	17.7
Deaths -----	40,338	34,584	15.5
Marriages -----	28,035	29,233	10.8

The three totals for the month of October, 1918, show a slight decrease in births, an exceptional increase in deaths from the influenza epidemic, and a considerable decrease in marriages over the same month for 1917. The three totals for September, 1918, show an appreciable increase in births and marriages, while the death total is practically the same as September, 1917.

Likewise, the period, January to October inclusive, shows an increase in births and deaths over the same period of 1917 and a decrease in marriages.

Length of Residence. The length of residence in California for the 8,721 decedents in October was as follows: Under 1 year, 831, or 9.5 per cent; 1 to 9 years, 1,938, or 22.2 per cent; 10 years and over, 2,746, or 31.5 per cent; life, 2,694, or 30.9 per cent; and unknown, 512, or 5.9 per cent.

The length of residence in California for the 3,092 decedents in September was as follows: Under 1 year, 201, or 6.5 per cent; 1 to 9 years, 509, or 16.5 per cent; 10 years and over, 1,374, or 44.4 per cent; life, 844, or 27.3 per cent; and unknown, 164, or 5.3 per cent.

County Marriage Totals. The counties showing the highest marriage totals for the month of October were as follows: Los Angeles, 455; San Francisco, 428; Alameda, 216; San Diego, 122; Orange, 102; Sacramento, 93; Santa Clara, 91; Fresno, 69; San Mateo, 54; San Joaquin, 51; Marin, 41; San Bernardino, 40; Riverside, 33; and Kern, 32. The aggregate for Los Angeles and Orange counties together is 557, against 764 for San Francisco and other bay counties. The counties showing the highest marriage totals for the month of September were as follows: Los Angeles, 866; San Francisco, 708; Alameda, 330; San Diego, 200; Sacramento, 162; Orange, 135; Santa Clara, 132; San Joaquin, 100; San Mateo, 99; Fresno, 96; Marin, 81; San Bernardino, 68; Sonoma, 47; and Napa, 45. The aggregate for Los Angeles and Orange counties together was 1,001, against 1,249 for San Francisco and other bay counties.

*The present report is for the months preceding but two. This order must be followed because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the next preceding month is completed.

County Birth and Death Totals. Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
October—			September—		
Los Angeles	1,172	1,971	Los Angeles	1,229	824
San Francisco	780	2,005	San Francisco	783	-----
Alameda	422	888	Alameda	524	183
Fresno	191	202	Fresno	260	111
San Diego	172	231	San Diego	162	137
Sacramento	155	271	Santa Clara	157	134
Santa Clara	148	311	San Joaquin	150	100
San Joaquin	129	272	Sacramento	131	99
San Bernardino	112	255	Orange	108	49
Orange	110	133	San Bernardino	102	82
Kern	87	207	Kern	86	35
Tulare	66	54	Riverside	75	35
Sonoma	57	74	Tulare	75	24
Contra Costa	50	132	Sonoma	73	51
Stanislaus	50	71	Stanislaus	73	29
Kings	48	22	Contra Costa	71	19

In October there were 4,420 deaths from influenza and 961 deaths from pneumonia (all forms), or a total of 5,381 from influenza and pneumonia together. The statistics of deaths from the epidemic are presented elsewhere in this bulletin.

Other notable causes of deaths for October were as follows: Diseases of the circulatory system, 611; the various forms of tuberculosis, 533; violence (includes suicide, accidents, etc.), 353; diseases of the nervous system, 322; Bright's disease and nephritis, 214; and epidemic diseases (except influenza), 92.

In September there were 498 deaths from diseases of the circulatory system and other notable causes as follows: From the various forms of tuberculosis, 418; violence (suicide, accidents, etc.), 339; diseases of the digestive system, 316; diseases of the nervous system, 310; diseases of the respiratory system (includes pneumonia), 238; Bright's disease and nephritis, 188; and epidemic diseases, 91.

The deaths from the three leading epidemic diseases (except influenza for October) for the months of October and September were as follows:

October.

Typhoid fever	Diphtheria and croup	Whooping cough
Alameda	2	2
Butte	2	3
Fresno	6	1
Kern	1	1
Los Angeles	1	2
Marin	3	1
Riverside	1	1
Sacramento	1	1
San Bernardino	—	1
San Diego	17	1
San Francisco	—	3
San Joaquin	—	—
Santa Barbara	—	15
Solano	—	—
Stanislaus	—	—
Tehama	—	—
Trinity	—	—
Ventura	—	—

September.

	Whooping cough		Diphtheria and croup		Typhoid fever
Alameda	3	Alameda	2	Alameda	3
Calaveras	3	Fresno	2	Humboldt	1
Fresno	2	Humboldt	1	Kings	1
Los Angeles	5	Kern	1	Los Angeles	4
Riverside	1	Los Angeles	7	Riverside	1
San Diego	1	San Bernardino	2	San Diego	2
San Francisco	1	San Francisco	4	San Francisco	3
San Mateo	2	Solano	1	San Joaquin	1
Santa Clara	3		—	Siskiyou	1
Siskiyou	1		20		—
	—				17
	22				

Infant Mortality. There were 532 deaths for children under 1 year in October which were distributed by age in months as follows: Under 1 month, 210; 1 to 2 months, 72; 3 to 5 months, 99; and 6 to 11 months, 150.

In certain cities the deaths under 1 year were as follows: Los Angeles, 83; San Francisco, 72; and Oakland, 29.

The 532 deaths under 1 year, including 165 deaths from influenza and pneumonia, in comparison with the 4,479 live births show an infant mortality ratio of 119 per 1,000 births.

There were 341 deaths for children under 1 year in September which were distributed by age in months as follows: Under 1 month, 173; 1 to 2 months, 45; 3 to 5 months, 57; and 6 to 11 months, 66.

In certain cities the deaths under 1 year were as follows: Los Angeles, 46; San Francisco, 43; and Oakland, 24.

The 341 deaths under 1 year in comparison with the 4,991 live births for September show an infant mortality ratio of 68 per 1,000 births.

REPORT OF BUREAU OF SANITARY ENGINEERING FOR SEPTEMBER, 1918.

By C. G. GILLESPIE, C.E., Director.

CONFERENCES.

A conference was held with representatives of the East Bay Water Company on September 21, relative to adoption of a schedule of sampling of its supplies. The company agrees to arrange for sampling from all sources at intervals varying from bi-weekly to monthly, depending upon the particular sanitary aspects, and from treated supplies and certain zone taps at daily or less intervals, depending on the need. The work will be performed by a private laboratory, at least for the present.

On September 27 conference was held with the city engineer of Manteca relative to preliminary plans for proposed sewerage, bonds for which will be voted on shortly.

PLUMBING.

Examination papers of plumbers taking the examination on August 17, 1918, have been corrected by the local boards and are now undergoing review by Mr. M. W. Lyon, chief plumbing inspector, State Board of Health. Certificates of Competency will be issued during October and November.

SEWAGE DISPOSAL.

Applications for Permit Filed.

Salida, Carpenter Cheese Company. To dispose of wastes into Stanislaus River.

Permits Granted.

Salida, Carpenter Cheese Company. Temporary permit to empty wastes from their milk products plant into the Stanislaus River, provided there shall be no nuisance or menace to health created.

Plans Filed.

Durham, Land Settlement Board. Plan of proposed septic tank.

Manteca. Plans of proposed city sewerage.

Clyde, Clyde Company. Map showing location of proposed outfall.

Investigations, Inspections, Reports and Conferences.

Avalon. September 5. Maximum summer population about 8000. Sewage discharged without treatment into ocean at shore about half mile south of municipal pier and principal bathing beach in the bay. Sewage, said to have floated back into bay, has caused complaints. Objectionable conditions may be due in part to pleasure yachts anchored in bay. Extension of outfall sewer to more remote point and more careful control of disposal of wastes from boats, have been recommended.

Santa Ana. September 18. Investigation as result of complaints of nuisance. Complaint lodged with district attorney was against both the city and a seed company. The latter produces large quantity of liquid waste which is emptied into an open drainage ditch, resulting in foul odors. The complaint against the city appeared to be not well founded. The sewer farm is well adapted to its purpose of sewage disposal and is well operated.

Anaheim. September 18. Reinspection of sewer farm. The newly enlarged Imhoff tank is said to have produced very offensive odors during its ripening period but has greatly improved during the past few weeks. It still produces odors and is foaming badly. The city farm is in good shape and easily disposes of the effluent. It was recently enlarged from twenty to thirty acres. City trustees have instructed the city engineer to study feasibility of an outfall to the ocean.

Santa Clara. September 26. City has a contract with a rancher for disposal of its sewage, after clarification in a septic tank, by irrigation on alfalfa with provision that when land is overflowed it may be turned into Guadalupe Creek. During recent rains this was done but as creek flow had not yet increased, serious odors and complaints resulted. Rancher had refused to renew land disposal after the storm, though soil became dry, on the plea that he wished to first feed off the new grass. Complaints investigated and found justifiable. City notified to restore land disposal or to treat with hypochlorite of lime or permanganate of potash pending increased flow in creek, and to lay plans for permanent sewage disposal by construction of high grade treatment plant with outlet into Guadalupe Creek or by joining with San Jose and surrounding communities in a large Sanitary District, with outlet into Alviso Slough. Latter preferable on account of probable difficulties in operating a treatment plant due to amounts and kinds of industrial wastes.

WATER SUPPLIES.**Applications for Permit Filed.**

Sierra Madre. To continue to supply water from tunnels and wells in Little Santa Anita Canyon.

Etna Mills, Etna Development Company. To supply water to town of Etna Mills and vicinity, with works now constructed.

Permits Granted.

Sierra Madre. Temporary permits to continue to supply water to the inhabitants of the city from existing sources, pending observations of the success with which remedial measures are applied.

Plans Filed—None.**Investigations, Inspections, Reports and Conferences.**

Avalon. September 5. Dual water system. Sea water piped through town for fire protection, street sprinkling and flushing toilets. Water from two large dug wells piped through town for domestic uses except that bottled water from

San Pedro is used almost exclusively for drinking. At St. Catherine Hotel, situated half mile from town, San Pedro water, brought over in tanks by boats, is used for all purposes.

Oakland, Industrial Home for the Blind. September 16 and 17. Reported on contamination of supply. Water is obtained from tunnels on the grounds. One tunnel built many years ago tested out safe for drinking purposes. Other tunnel built this year had a bad odor and tested out highly dangerous. Test of a local sewer about 60 feet away showed that it leaked badly and this was repaired last summer. Bacterial tests on tunnel this month show improvement in safety and inspection of the 17th shows odor is disappearing but that old sewage slime still clung to sides. Incoming water tested safe. We conclude the original contamination to be due to the leaky sewer or to pollution by workmen during construction and that it is disappearing, but recommended removal of sewage slime.

Arcadia. September 30. Municipally-owned system, deriving water from drilled wells about 475 feet deep. Apparently no danger of contamination. This is the water used at the Arcadia Balloon School.

Alameda, Berkeley, Oakland, East Bay Water Company. September 3. Samples were taken from various sources of the company. All new well supplies are chlorinated effectively. September 6. A conference was held with officials of the company and the chemist and engineer of the Great Western Chemical Company. Numerous complaints have been received by the chemical company that a yellow gummy substance is clogging the valves of chlorine tanks. A visit was made to the storeroom of the water company and over twenty tanks were examined but in only one of the tanks was there any sign of any such substance. The chemist of the company thought this might be chlorinated oil. Two chlorinators of the water company were inspected. The regulating valves on the pressure compensating device were taken apart. A considerable amount of this same yellow substance was found. A sample was taken of this by the chemist of the chemical company. As yet no report has been received as to the nature of the substance.

Benicia, Benicia Water Company. September 16. Another inspection was made of the different reservoirs and wells of this company, in company with the Sanitary Engineer of the Emergency Fleet Corporation. A line of new wells, each about forty feet deep, has been driven across the valley about a mile below Herman Reservoir. Water in both Herman and Paddy reservoirs is very low but with this new well supply the company will probably have enough water so that it will not be necessary to bring water in barges from the Sacramento River.

Vallejo. September 16. A sample was obtained from Lindsay Slough about ten miles east of Fairfield. It has been proposed to pump water from this slough, filter it, and then pump it to Vallejo to augment the present supply from Green Valley. Analysis of this water showed it to be polluted but chemical analyses showed it to be capable of purification by filtration and chlorination.

SWIMMING POOLS.

Oakland, Idora Park. September 21. Filed report on recommended improvements, most noteworthy of which are: (1) Double filter plant capacity so that contents of pool can be recirculated and filtered in at least 14 hours. (2) Install improved inlet and outlet system, bringing water in through inlets spaced about 20 feet apart along one side of the pool and taken off through outlets similarly placed on opposite side. Use of scum gutter commended. (3) Abandonment of sand beach and substitution of superior garden effects, sun slabs or divans, etc., as a more sanitary attraction, probably more popular. (4) Arrange for more thorough and consistent disinfection of suits. (5) Post condition of pool daily to obtain support of public for the efforts of keeping it clean and healthful.

LABORATORY WORK.

The following is a summary of the work done by the laboratories of the Bureau of Sanitary Engineering for September, 1918:

Los Angeles Office.

Bacteriological examinations of water----- 68

Berkeley Office.

Bacteriological examinations of water-----	140
Chemical examinations of water (partial)-----	151
Sanitary chemical examinations of water-----	14
Microscopical examinations of water-----	8
Mineral examination of water-----	1
Total number of samples submitted-----	174

REPORT OF BUREAU OF SANITARY ENGINEERING FOR OCTOBER, 1918.

By C. G. GILLESPIE, C.E., Director.

WATER WORKS OPERATION RECORDS.

The bureau is making good progress in getting the operators of chlorinators and water treatment plants to keep a record of operation several times a day. The Benicia Water Company keeps an excellent hourly record. Eureka makes complete entries every four hours. Merced Falls makes several readings and entries per day for both water and sewage chlorinators. The Black Diamond Water Company at Pittsburg makes entries each time the pumps operate, about six times a day. The city of Antioch files a daily record but makes a great number of readings per day. The Natomas Water Company at Folsom keeps a fair record. Originals of these reports are sent to the Bureau once a week and the results checked over to note whether the operation appears to have been faithfully performed. Corrections are noted and suggestions made for improvements in operation.

ACTION ON APPLICATIONS FOR DOMESTIC WATER SUPPLY PERMITS.

Beginning this month, the bureau is proceeding to consider all applications for domestic water supply permit heretofore filed, on which no action has been taken. It has been the practice to take no action until the supply had been inspected by a representative of the bureau, but with few field men it has been impossible to investigate many of the supplies with applications dating as far back as 1916. To protect such cities against a violation of the law, temporary permits are being recommended with as detailed provisions as the office information on the supply warrants and always the permit is given "pending inspection by a representative of the bureau."

CO-OPERATION WITH PRIORITY BOARD AND CAPITAL ISSUES COMMITTEE.

In pursuance of the purpose of the government to curb expenditure for improvements or projects not immediately essential to protect the public health and to the economic and industrial welfare of the country, the Priority Board and Capital Issues Committee refer projects on new sewerage or water supply to this Bureau for opinion on the possibilities of postponement. During the month investigation has been made and opinion rendered on contemplated improvements at Turlock, Manteca, Santa Cruz and Brentwood.

PLUMBING.

Certificates of Competency have been issued to 1,986 plumbers who successfully passed the state examination of August 17. Arrangements are now being made for hearings in the cases of those who appeared to be unqualified for certification.

SEWAGE DISPOSAL.**Applications for Permit Filed.**

Larkspur, Sanitary District No. 4, Marin County. To use existing works, which discharge through outfall in city limits into Salt Water Slough, which empties into San Francisco Bay near San Quentin.

Permit Granted—None.**Plans Filed—None.****Investigations, Inspections, Reports and Conferences.**

Livermore (Alameda Co. Tubercular Hospital). October 2. Sewage disposal consists of Imhoff tank, dosing tank and sprinkling filter, effluent ditched to irrigate wine grapes, using furrows. Soil is sandy. Worst criticism is of dosing tank apparatus and sprinkling filter nozzles. Former discharges continuously at a low head instead of intermittently, as designed. Apparently there has been poor workmanship installing the apparatus and there is a leak in the bell or leg of siphon. Condition has been referred to manufacturer. Nozzles are badly clogged. Appearance of plant is one of neglect.

Livermore (Livermore Sanitarium). October 2. Inspected by reason of recent complaints. Sewage, about 40,000 gallons per day, is used to supplement local water supply for watering kale for chicken feed, berries and tomatoes in early stages, and alfalfa. Tracts are within city limits and surrounded by habitations. Complaints probably well founded but season is over for this year.

Manteca. October 2 and 3. Inspected proposed sewer system. City has recently incorporated and first act was to vote on sewerage. Present sewerage is into individual cesspools and in some cases "sewer wells" which have been condemned by the State Board of Health. Both are overflowing and health menace is very great. City will vote on main sewers and laterals in built up section. Will later vote on laterals as "District 1." Flat topography and high ground water, with quicksand close to surface, compel use of flat grades, velocities ranging from 1.0 to 1.6 feet per second. Flushing from flush tanks and blowoffs connected to irrigation ditches will be used freely, also ample manholes. Disposal will be on sandy land, poorly isolated, about a mile from town. We expect a year's experience will compel a change in disposal and have intimated to city that it must be prepared to construct an Imhoff tank—sprinkling filter layout with a possible outlet into a main drain ditch along the property. Study of waste of local cannery handling tomatoes was also advised as a part of this plan.

Turlock. October 3. Conferred with city officials re means of satisfying complaints against sewer farm and disposal. City abandoned its own sewer farm a few months ago on account threatened damage suit for flooding private land and arranged with private individual to dispose of sewage on private lands, carried in a practically unused irrigation ditch a distance of about one mile. Lately persons living near the ditch, which is exceedingly foul, threaten suit, as well as others living near new sewer farm. Apparently necessary to seek entirely new outlet as entire country is too thickly settled for easy land disposal. With city's engineer, a plan was blocked out including Imhoff tank—sprinkling filter, disposing into a projected district drain now four miles from the site but approaching it. Plant isolation and effect of local tomato cannery waste on sewage treatment are important engineering studies.

Mather Field, Sacramento. October 4. Inspected new Imhoff tank and intermittent sand filter. Former working fairly well but operation of latter fundamentally wrong. Practice is to run sewage onto one bed at a time for days until it remains flooded. Explained function of filter and outlined a plan of daily change from bed to bed in turn, filters to be scraped or harrowed when bed clogs to a point where sewage failed to seep away some time during the 24 hours while in service. Also outlined means of testing effluent, using methylene blue.

Represa, State Prison at Folsom. October 4. Activated sludge plant was recently put out of commission by bursting of a water reservoir which carried heavy sediment into plant, choked aeration system, etc. Now cleaned out and

in service again. Will need air compressor to replace blower which has not been suited to this service.

Clyde. October 25. This is a new shipbuilding town, springing up near Bay Point. Sewerage is to be installed with disposal into a short tidal arm of Suisun Bay after clarification in an Imhoff tank. Advised further dilution studies and flow measurements in this arm.

Brentwood, Balfour-Guthrie Co. October 25. Company considering sewerage improvements for its own lots and hotel, outfall to lead about 3,000 feet from premises. Advised a nearer disposal temporarily on account of high cost of construction at this time.

Arcadia. October 4. Inspection of sewage disposal at Government Balloon School. New septic tank now in operation and giving fair degree of clarification, though effluent has rather marked odor. No nuisance was created to this date. The tank is of the standard army type, about 25 by 40 feet in plan, covered with wooden building and built about 200 feet north of Huntington Drive, a paved boulevard. Effluent is piped about a fourth of a mile south and spread on very porous, sandy land.

Compton. October 18. Inspection of Imhoff tank and contact beds. Plant appeared to be in good condition and giving sufficient purification to prevent nuisance.

Matilija Hot Springs. October 25. This is a summer resort on the Ventura River above the intake of Ventura water supply. For many years past sewage has been discharged directly into the stream. The manager was advised of the law forbidding this practice. It was advised that cesspools be dug to receive the sewage. The location of the resort makes satisfactory sewage disposal very difficult, due to the rocky formation.

Wheeler Hot Springs. October 25. This is another resort on the watershed of the Ventura supply, which for many years has discharged sewage into the river. Ground formation here makes disposal in cesspools comparatively easy and the manager has agreed to make changes along these lines.

Ventura. October 25. Bonds for the sewage disposal plant were sold a short time ago. Final working plans have not yet been submitted for approval. The city engineer has been reminded of the fact that approval of plans, prepared by consulting engineers about a year ago, was delayed pending the completion of final working plans.

Santa Barbara. October 24. The concrete work and building for the new Reinsch-Wurl sewage screening plant are completed. The screen and other machinery have been delayed in transit and will be installed as soon as they arrive.

Santa Barbara County Hospital. October 24. The Imhoff tank and subsurface irrigation system have been in operation for several months. The design of the tank was changed after approval by the board to the extent of covering it with a concrete roof, placed about 4 feet above the flow level with access to the interior provided through only two small manholes. The original recommendation was that a building be provided into which a man could easily enter and work. With the present arrangement, breaking up of scum and inspection of the interior is difficult and the tank is apt not to receive proper attention. The subirrigation system appears to be working satisfactorily, giving good distribution, judging from the moist appearance of the soil over the entire irrigated area.

Pasadena. October 22. Work is progressing on erection of an experimental plant to treat sewage by a modified process similar to activated sludge process. Sewage will pass successively through three circular aerating tanks, being forced into the bottom of each tank together with air, the sewage and air being mixed together in centrifuge pumps before entering each tank. A fourth and final tank, which the sewage next enters, is for separating and thickening sludge. It utilizes the principle of the Trent device heretofore used for thickening mine slimes. This tank is about 15 feet deep. Sewage and sludge enter slowly at a depth of about 4 feet below surface. Overflow weirs at top remove clarified effluent. A pump takes its suction from tank about 5 feet below top and discharges into bottom of tank through nozzles in slowly revolving horizontal arms. Sludge is

expected to concentrate with a relatively low water content at bottom of tank. Another pump will force a portion of this sludge back to the first aerating tank. The process is purely experimental and untried, so far as sewage treatment is concerned. It is reasonable to believe that septic action or liberation of dissolved air may cause sludge to rise into the clear water zone at top and upset the process.

WATER SUPPLIES.

Applications for Permits Filed—None.

Permits Granted.

Clovis. Permit to supply water from existing wells with the provision that no material modifications or alterations be made in the source of supply or main works without the previous approval of this board.

Colusa. Permit to supply water from two tubular wells 325 feet deep and an emergency connection with the Sacramento River, with the provision that the valve on the 10-inch suction line leading to the river be tightly sealed and kept under lock, to be opened only by the superintendent of waterworks with the consent of the State Board of Health and provided that arrangements have been made to chlorinate water as drawn from the river.

Rialto, Rialto Domestic Water Company. A permit to supply water from existing tunnel and well sources and a temporary permit only to supply water from Lytle Creek pending the results of further analyses throughout the entire year and the success of remedial measures; both permits contingent on maintaining the healthfulness of the supply and the securing of approval from this bureau of all plans for material additions or improvements in sources or works prior to construction.

Pending inspection by a representative of this bureau, temporary permits were granted, as follows: Angels Camp; Arcata, Union Water Company; Burlingame; Centerville, Centerville Water Company; Centerville, Fred F. Dusterberry; Chico, Chico Water Supply Company; Cloverdale; Corcoran; Corning; Daly City; Dinuba; Etna Mills, Etna Development Company; Exeter; Fresno, Fresno City Water Company; Gilroy; Gridley; King City, Coast Valleys Gas and Electric Company.

Arcadia. Permit to continue to supply water from the four wells now in use.

Plans Filed.

Centerville, Fred F. Dusterberry. A sketch plan of his water supply.

Investigations, Inspections, Reports and Conferences.

Represa, State Prison at Folsom. October 4. Water supply is obtained from American River and chlorinated. Liquid chlorine has been used but success with the apparatus has not been satisfactory, two machines having been used up in the service. Recently tanks for using hypochlorite of lime were installed but metering the solution is by choking down a valve on the outlet and measuring the time to fill a known measure. It was recommended that an orifice box be installed for this purpose and in view of the gross contamination in the Sierra streams by recent and unusually early rains and consequent watershed cleanoff, it was asked that this improvement be made at once.

Clyde, Bay Point Public Utilities Company. October 25. Samples and inspection of new bored wells to supply Clyde and Bay Point. Wells are the ordinary lap-jointed double-cased riveted construction, about 98 feet deep. Observed an interesting case of well pollution. Water inside was about 10 feet below water level outside of well and a pronounced leak through the double-cased pipe was noticeable at the outside water level. Ground water so near the surface is obviously polluted and a dangerous material when it gets inside the well. Dropping an inner casing inside the wells to a depth of 20 or 30 feet and grouting the space between with concrete was advised as the best remedy.

Pittsburg, Black Diamond Water Co. October 25. Supply is obtained from San Joaquin River, is chlorinated and filtered through crude and small pressure

filters. Alum and lime used as coagulants. Disinfection fair but filter is too small and sand too coarse to filter properly. Went over record sheets with operator and made suggestions to improve same.

Antioch. October 25. Supply is similar to that at Pittsburg but settling tanks and use of lime are omitted and filters are larger and sand finer. Excellent results and clear water being obtained on date of inspection. If proper amounts of filter alum and chlorine are used, the plant can produce the desired results. Went over record sheets with operator.

Marin Water District. October 21 and 23. Reinspected system to note compliance with bureau recommendations of 1916-17. Supply is run-off from Mount Tamalpais. On south side it is direct run-off caught at diversion dams in wooded inaccessible canyons traversed by hikers' trails and at upper end of which are some taverns and cesspools. In dry weather water probably safe but in wet weather it is quite likely that cesspools and fresher excrement of hikers is serious menace. On south slope water is collected in large reservoirs but their value to purify water in winter is slight because of rapid filling. A new lake is under construction, to be formed by Alpine Dam. In 1916-17 advised steps to localize hiking, picnicking, construction and maintenance of sanitary privies at designated spots, preparation of a hikers' map showing trails open to public and construction camp and brush gang sanitation. All these measures have been carefully carried out. Now recommend that bi-weekly sampling for bacteriological purposes be carried on especially during winter to note sufficiency of measures, also that the new supply be not turned into mains until favorable analyses are obtained.

East Bay Cities, East Bay Water Company. October 31. Inspected three chlorinators treating deep well water of demonstrated contamination. Company has been negligent in not making the installation complete with scales. Company is making a poor attempt at keeping a record of operation of chlorinators. In one case the record had been filled out eight hours in advance. One of the machines was undergoing repair due to corrosion of strainer in water line, occurring when the water level in the jar became low, with the result that small particles of wire carried into the water port, clogging it.

Riverside-Highlands. October 8. This is a district of small orange ranches supplied with irrigation and domestic water from wells in Lytle Creek Wash and wells in bottom land adjoining Santa Ana River. The latter wells are occasionally overtopped by flood waters and are not properly protected against contamination on such occasions. They are said never to be used from about October to April, the period of greatest floods, but floods have occurred at other times of year. Better protection of the wells has been recommended.

Rialto. October 9. City of 1,500 population. Supply derived from Lytle Creek and from deep drilled wells in Lytle Creek Wash. Latter source appears to be satisfactory from sanitary standpoint. Creek water is subject to possibilities of contamination by campers in summer. Additional inspections during outing season are advisable to determine whether this is serious.

Fontana. October 9. A partially developed townsite supplied by same company and by same sources as Rialto.

Ventura. October 25. Inspections made on watershed of Ventura River, the principal source of supply. The Southern California Edison Company appears to be trying to supply satisfactory water, but has had difficulty in operating the chlorinator. A gummy accumulation gives difficulty in causing stoppage. The company has been urged to provide in duplicate those parts which are most likely to give trouble.

SWIMMING POOLS.

Los Angeles, Boy Scouts. October 16. An outdoor pool has just been completed. The equipment includes open rapid sand filter, 3 x 8 feet plan, built in a concrete box adjoining deep end of pool. A circulating pump takes suction from bottom of filter and discharges at shallow end. Filter wash-water overflows into a concrete basin which receives also water from showers. The circulating pump removes this waste water, raising it onto nearby land for irrigation.

A heavy growth of algæ has developed, giving water greenish and turbid appearance. By treatment with copper sulphate this trouble is expected to be overcome.

The filter has been operated only a short time and its best form of manipulation has not yet been determined. It should give satisfactory results if properly operated. An abundant growth of mosquitoes began in the pool at first, but the larvæ were all readily killed when the water was agitated by bathers.

LABORATORY WORK.

The following is a summary of the work done by the laboratories of the Bureau of Sanitary Engineering for October, 1918:

Los Angeles Office.

Bacteriological examinations of water----- 80

Berkeley Office.

Bacteriological examinations of water----- 176
 Bacteriological examinations of sewage----- 3
 Sanitary chemical examinations of water----- 19
 Chemical examinations of water (partial)----- 180
 Microscopic examination of water----- 1
 Total samples submitted ----- 201

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR SEPTEMBER, 1918.

E. J. LEA, M.S., Director.

A total of 136 samples were received at the laboratory during the month of September.

The official samples of foods and drugs, 75 in number, consisted of beverages, butter, chocolate, condiments, egg yolks, fruit, ice cream, jelly, liquors, meat, milk, oleomargarine, syrup, tea, vegetables, water, camphorated oil, essence of peppermint, glycerine and tincture of iodine.

The unofficial samples of foods consisted of bread, butter, casein, condiments, flour, fruit, meat, meat preserver, milk, soup and vegetables.

Twenty-eight samples were received from the state institutions, classified as follows: Coffee, coffee substitute and tea.

CASES REFERRED TO DISTRICT ATTORNEYS.

The following cases were referred to the State Board of Health, at the September meeting, to the district attorneys for prosecution:

Alameda—A. R. Brandon, vinegar. *El Monte*—El Monte Canning Company, tomato puree; San Gabriel Valley Canning Company, tomato puree. *Grass Valley*—F. B. Sparks, walnut meats. *Hayward*—J. F. Correia, halved pears. *Marysville*—Marysville Bakery, Scandalis & Bros., buns and raisin cake; J. R. Garrett, Inc., fresh eggs. *Napa*—Ed. Henry, blackberry brandy; The Barnhart Sales Company, Inc., ground mustard; A. Zeller, Palace Hotel Bar, raspberry syrup and whiskey; Russ Bar, Green & Gstrein, Proprs., whiskey (2 counts). *Oakdale*—Pacific Pea Packing Company, milk hominy. *Oakland*—Pacific Coast Canning Company, Lew Hing, Pres., apricots and pie apricots; Ruediger, Loesch & Zinkand, Inc., nut bread, cream, maple syrup and walnut meats; S. Rosenthal, canned crab; Melrose Hotel and Wine Company., Ferrari & Fagundes, whiskey. *Palo Alto*—Polos Candies, Geo. and John Polos, vanilla syrup. *Richmond*—Louis Miller, milk. *San Francisco*—Newman's College Bar, Inc., brandy; California Bakers Supply Company, egg-o-lene; The Oasis, J. Arees Propr., Fernet-Branca, gin and whiskey; Melrose Milk Company, milk (2 counts). *Santa Cruz*—A. P. Hotaling and Company, St. James Bar, gin and whiskey. *Vallejo*—N. Mangold, ice cream.

CONVICTIONS UNDER FOODS AND DRUGS ACTS REPORTED DURING SEPTEMBER, 1918.

Colma—Phillip Deller, decomposed beef, fined \$125. *El Monte*—El Monte Canning Company, adulterated and mislabeled tomato puree, fined \$50. *Hayward*—Castro Villa, 3 counts on refilled bottles of Amer Picon, Gilka Kummel and A. V. H. gin, fined \$5 on 1 count and sentence suspended on the other 2 counts. *Livermore*—Livermore Hotel, F. Ferrero, prop., refilled bottles of Fernet Branca, fined \$5; Bohemian Cafe, M. G. Leal, prop., refilled bottles of Fernet Branca, guilty, sentence suspended; Bohemian Cafe, M. G. Leal, prop., adulterated and mislabeled blackberry brandy, fined \$5; C. Iverson & F. Kaiser, adulterated and mislabeled whiskey, fined \$5; *Long Beach*—South Coast Canning Company, decomposed sardines, fined \$25; South Coast Canning Company, adulterated and mislabeled tomato puree, fined \$100. *Los Angeles*—Battelle Drug Company, substandard tincture of iodine, fined \$25; Hong Kong Noodle Factory, adulterated and mislabeled eggs, fined \$25; Sunset Tea and Coffee Company, extract vanilla, adulterated and mislabeled, fined \$15; Sam Seelig Company, moldy and decomposed domestic "Swiss" cheese, fined \$15; Plaza Meat and Provision Company, moldy and decomposed tomato paste, fined \$5; *Mountain View*—L. Sangunetti Canning Company, adulterated and mislabeled catsup, fined \$5, and adulterated and mislabeled tomato puree, fined \$5. *Oakland*—I. Kessler, strained honey, adulterated and mislabeled, fined \$5. *Pleasanton*—J. C. Snowgrass, refilled bottle of Scotch Whiskey, defaulted in appearance. *San Pedro*—White Star Canning Company, decomposed pilchards, fined \$50. *Venice*—Lang's Meat Market, adulterated chopped meat, fined \$10.

ARTICLES OF FOOD CONDEMNED.

The following articles of food, condemned upon physical and chemical examination as unfit for food, were either destroyed or denatured during the month of September, 1918:

Almonds—10 pounds, wormy, San Francisco; Be-No—3 cases, decomposed, San Francisco; catsup—489 cases, decomposed, San Diego; Fava beans, 2,970 pounds, wormy, San Francisco; Hamburger steak, 3 pounds, decomposed, Marysville; Mexican Hot—3 bottles, decomposed, Marysville; sardines, 70 pounds, swelled cans, Los Angeles; sardines—4,800 cans, decomposed, Long Beach; sardines—72 cans, swells, Grass Valley; sauer kraut—1 gallon, filthy, Marysville; tomatoes—38,700 pounds, mouldy, Berkeley; tomatoes—1 carload, mouldy, Oakland; tomato paste—65 pounds, Los Angeles; tomato puree—2810 gallons, decomposed, Sunnyvale; tomato puree—450 gallons, decomposed, Berkeley; tomato paste—8,250 gallons, Long Beach.

FOOD INSPECTION DECISION 177.

SODA WATER FLAVORS AND SODA, SODA WATER.

The following definitions and standards for soda water flavors and soda, soda water, were adopted by the Joint Committee on Definitions and Standards November 19, 1915, and were approved by the Association of American Dairy, Food, and Drug Officials August 10, 1916, and by the Association of Official Agricultural Chemists November 21, 1917:

1. *Ginger ale flavor* is the water-soluble product obtained from ginger, with or without flavoring substances which do not simulate the flavor or pungent effect of ginger. The predominating flavor of the product is that of ginger.

2. *Ginger ale with capsicum flavor* is the water-soluble product obtained from ginger and capsicum, with or without other flavoring substances. The predominating flavor of the product is that of ginger.

3. *Sarsaparilla flavor* is the water-soluble product prepared with oil of sassafras and methyl salicylate or oil of wintergreen or oil of sweet birch and with or without other essential oils or extract of sarsaparilla.

SODA, SODA WATER.

1. *Ginger ale* is the carbonated or artificially carbonated beverage prepared with potable water, acidulated sugar (sucrose) syrup, and ginger ale flavor.

2. *Ginger ale with capsicum* is the carbonated or artificially carbonated beverage prepared with potable water, acidulated sugar (sucrose) syrup, and ginger ale with capsicum flavor.

3. *Sarsaparilla* is the carbonated or artificially carbonated beverage prepared with potable water, sugar (sucrose) syrup, and sarsaparilla flavor. It may or may not be acidulated.

Additional definitions and standards for soda water flavors, soda, soda water, under consideration.

The foregoing definitions and standards are adopted as a guide for the officials of this department in enforcing the Food and Drugs Act.

AMENDMENT TO REGULATIONS GOVERNING THE BUSINESS OF COLD STORAGE.

Section Seven, of the Regulations Governing the Business of Cold Storage, has been amended to read as follows:

Articles of food, which are held at low temperatures for temporary protection only, for periods less than thirty days, will not, for the purposes of the California Cold Storage Act, be regarded as being held in cold storage, but such articles shall be kept separate from articles intended for cold storage, and be appropriately marked with date of original entry. *The marks as provided in Regulation Three shall not be removed or obliterated when the goods are withdrawn from cold storage.*

DEFINITIONS OF FEEDING STUFFS.

Adopted by the Association of Feed Control Officials of the United States,
November 23-24, 1917.

Approved by the California State Board of Health, October 5, 1918.

Meal is the clean, sound, ground product of the entire grain, cereal or seed which it purports to represent.

Chop is a ground or chopped feed composed of one or more different cereals or by-products thereof. If it bears a name descriptive of the kind of cereals, it must be made exclusively of the entire grains of those cereals.

Screenings are the smaller, imperfect grains, weed seeds and other foreign material having feeding value, separated in cleaning the grain.

Alfalfa meal is the entire alfalfa hay ground, and does not contain an admixture of ground alfalfa straw or other foreign materials.

Animal Products.

Blood meal is ground dried blood.

Cracklings are the residue after partially extracting the fats and oils from the animal tissue. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Digester tankage is the residue from animal tissue, exclusive of hoof and horn, specially prepared for feeding purposes by tanking under live steam, drying under high heat, and suitable grinding. If it contains more than 10 per cent of phosphoric acid (P_2O_5) it must be designated digester meat and bone tankage.

Meat scrap and meat meal are the ground residues from animal tissues exclusive of hoof and horn. If they contain more than 10 per cent of phosphoric acid (P_2O_5) they must be designated meat and bone scrap and meat and bone meal. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Brewers' and Distillers' Products.

Brewers' dried grains are the properly dried residue from cereals obtained in the manufacture of beer.

Distillers' dried grains are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors. The product shall bear the designation indicating the cereal predominating.

Malt sprouts are the sprouts of the barley grain. If the sprouts are derived from any other malted cereal, the source must be designated.

Buckwheat Products.

Buckwheat shorts or buckwheat middlings are that portion of the buckwheat grain immediately inside of the hull after separation from the flour.

Corn Products.

Corn bran is the outer coating of the corn kernel.

Corn germ meal is a product in the manufacture of starch, glucose and other corn products, and is the germ layer from which a part of the corn oil has been extracted.

Grits are the hard, flinty portions of Indian corn, without hulls and germs.

Corn gluten meal is that part of commercial shelled corn that remains after the separation of the larger part of the starch, the germ and the bran, by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Corn gluten feed is that portion of commercial shelled corn that remains after the separation of the larger part of the starch and the germ by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Oil Cake.

Oil cake is the residual cake obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product, the name of the seed from which it is obtained shall be prefixed to "oil cake."

Ground oil cake is the product obtained by grinding oil cake. When used alone, the term "ground oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "ground oil cake."

Cottonseed Products.

Cottonseed meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed meal that does not conform to the foregoing definition and that does not contain at least 36 per cent of protein.

Choice cottonseed meal must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41 per cent of protein.

Prime cottonseed meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and must contain at least 38.6 per cent of protein.

Good cottonseed meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, and must contain at least 36 per cent of protein.

Cottonseed feed is a mixture of cottonseed meal and cottonseed hulls, containing less than 36 per cent of protein.

Cold pressed cottonseed is the product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire cottonseed less the oil extracted.

Ground cold pressed cottonseed is the ground product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire ground cottonseed less the oil extracted.

Linseed and Flax Products.

Flax plant by-product is that portion of the flax plant remaining after the separation of the seed, the bast fiber and a portion of the shives, and consists of flax shives, flax pods, broken and immature flaxseeds, and the cortical tissue of the stem.

Unscreened flaxseed oil feed is the ground product obtained after extraction of part of the oil from unscreened flaxseed by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents. When sold without grinding the underground product shall be designated as "unscreened flaxseed oil feed cake."

Ingredients of unscreened flaxseed oil feed—ground cake from partially extracted flaxseed and foreign seeds (wheat, wild buckwheat, pigeon grass, wild mustard, etc.).

Screenings oil feed is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from the smaller imperfect grains, weed seeds and other foreign materials having feeding value separated in cleaning the grain. The name of the grain from which the screenings are separated shall be prefixed to "screenings oil feed."

Oat Products.

Oat groats are the kernels of the oat berry.

Oat hulls are the outer chaffy coverings of the oat grain.

Oat middlings are the floury portions of the oat groat obtained in the milling of rolled oats.

Oat shorts are the coverings of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped oat by-product is the resultant by-product obtained in the manufacture of clipped oats. It may contain light chaffy material broken from the ends of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

Peanut Products.

Peanut oil cake is the residue after the extraction of part of the oil by pressure or solvents from peanut kernels.

Peanut oil meal is the ground residue after the extraction of part of the oil from peanut kernels.

Unhulled peanut oil feed is the ground residue obtained after extraction of part of the oil from whole peanuts, and the ingredients shall be designated as peanut meal and hulls.

Rice Products.

Rice bran is the cuticle beneath the hull.

Rice hulls are the outer chaffy coverings of the rice grain.

Rice polish is the finely powdered material obtained in polishing the kernel.

Wheat Products.

Wheat bran is the coarse outer coatings of the wheat berry obtained in the usual commercial milling process from wheat that has been cleaned and scoured.

Shorts or standard middlings are the fine particles of the outer and inner bran separated from bran and white middlings.

Wheat white middlings or white middlings are that part of the offal of wheat intermediate between shorts or standard middlings and red dog.

Shipstuff or wheat mixed feed is a mixture of the products other than the flour obtained from the milling of the wheat berry.

Red dog is a low grade wheat flour containing the finer particles of bran.

Wheat bran with mill run screenings is pure wheat bran plus the screenings which were separated from the wheat used in preparing said bran.

Wheat bran with screenings not exceeding mill run is either wheat bran with the whole mill run of screenings or wheat bran with a portion of the mill run of screenings, provided that such portion is not an inferior portion thereof.

Miscellaneous Products.

Yeast or vinegar dried grains are the properly dried residue from the mixture of cereals, malt and malt sprouts (sometimes cottonseed meal) obtained in the manufacture of yeast or vinegar, and consists of corn or corn and rye from which most of the starch has been extracted, together with malt added during the manufacturing process to change the starch to sugars, and malt sprouts (sometimes cottonseed meal) added during the manufacturing process to aid in filtering the residue from the wort and serve as a source of food supply for the yeast.

Palm kernel oil meal is the ground residue from the extraction of part of the oil by pressure of solvents from the kernel of the fruit of *Elaeis guineensis* or *Elaeis malanococca*.

Ivory nut meal is ground ivory nuts.

Tentative Definitions.

*Corn feed meal is the by-product obtained in the manufacture of cracked corn, with or without aspiration products added to the siftings, and is the by-product obtained in the manufacture of table meal from the whole grain by the non-degerminating process.

*Hominy feed, hominy meal or hominy chop is a kiln-dried mixture of the mill run bran coating, the mill run germ, with or without a partial extraction of the oil and a part of the starchy portion of the white corn kernel obtained in the manufacture of hominy, hominy grits and corn meal by the degerminating process.

*Yellow hominy feed, yellow hominy meal or yellow hominy chop is a kiln-dried mixture of the mill run bran coating, the mill run germ, with or without a partial

extraction of the oil and a part of the starchy portion of the yellow corn kernel obtained in the manufacture of yellow hominy grits and yellow corn meal by the degerminating process.

*Linseed meal is the ground product obtained after extraction of part of the oil from ground flaxseed screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over 6 per cent of weed seeds and other foreign materials and provided further that no portion of the stated 6 per cent of weed seeds and other foreign materials shall be deliberately added.

*Oil meal is the ground product obtained after the extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from seeds which have been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "oil meal" shall be understood to designate linseed meal as defined. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to the words "oil meal."

*Oil process oil meal is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "old process oil meal" shall be understood to designate linseed meal as defined, made by the old process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "old process oil meal."

*New process oil meal is the ground product obtained after extraction of part of the oil by crushing, heating and the use of solvents from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "new process oil meal" shall be understood to designate linseed meal as defined, made by the new process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "new process oil meal."

*Ground flaxseed or flaxseed meal is the product obtained by grinding flaxseed which has been screened and cleaned of weed seeds and other foreign material by the most improved commercial processes, provided that the final product shall not contain over 4 per cent of weed seeds and other foreign materials, and provided further that no portion of the stated 4 per cent of weed seeds and other foreign materials shall be deliberately added.

Proposed Definitions.

°Wheat bran consists of the coarse outer coatings of the kernel obtained in the usual commercial process of milling from wheat that has been cleaned and scoured.

°Wheat shorts or middlings:

(a) Brown (red) shorts consist mostly of the fine particles of bran and germ and contains very little of fibrous offal obtained from the "tail of the mill."

(b) Standard (total or gray) shorts consist of the fine particles of the outer bran, the inner or "bee-wing" bran, germ, and the offal, or fibrous material, obtained in the last reduction on millings.

(c) White shorts consist of a smaller portion of the fine bran particles and germ and a much greater portion of the fibrous offal from the "tail of the mill."

°Red dog consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

°Ship stuff (wheat mixed feed) consists of pure wheat bran and standard, or total, shorts combined in the proportions obtained in the usual process of commercial milling.

NOTE—If to any of the foregoing brands of feed there should be added screenings, or scourings, as hereinafter defined, either ground or unground, bolted or unbolted, such brand shall be so registered, labeled and sold as clearly to indicate this fact. The word "screenings" or "scourings" as the case may be, shall appear as a part of the name or brand and shall be printed in the same size and face of type as the remainder of the brand name.

°Screenings consist of the smaller, imperfect grains, weed seeds, and other foreign materials, having feed value, separated in cleaning the grain.

°Scourings consist of such portions of the cuticle, brush, white caps, dust smut, and other materials as are separated from the grain in the usual commercial process of scouring.

*Adopted tentatively, final action to be taken at the annual meeting in 1918.

°Action to adopt as tentative definitions to be taken at the annual meeting in 1918.

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR OCTOBER 1918.

E. J. LEA, M.S., Director.

A total of 217 samples were received at the laboratory during the month.

The 116 official samples collected by the inspectors consisted of beer, butter, condiments, eggs, dried fruit, honey, ice cream, jam, liquors, milk, oil, pastes, syrup, canned vegetables and catarrh remedies.

The 97 unofficial samples consisted of beer, casein, cheese, chocolate, condiments, egg yolks, flour, jam, evaporated milk, oleomargarine, peanuts, prunes, sardines, spice, sugar substitutes, syrups, canned vegetables, vinegar and mineral waters; miscellaneous drugs were also received.

Four samples from state institutions were received consisting of teas and cream of tartar substitutes.

CONVICTIONS UNDER FOODS AND DRUGS ACTS REPORTED DURING OCTOBER, 1918.

There were twenty-five convictions obtained during the month of October, a total of \$680 in fines being imposed. Following is a list of the violators:

Hayward—Canyon Inn, whiskey, fined \$25 to be paid to the Red Cross. *Los Angeles*—Dodson Company, Inc., dill pickles, fined \$100; Dodson Company, Inc., sauerkraut, fined \$100; Dodson Company, Inc., tomato catsup, fined \$100; Sohn Drug Company, tincture iodine, fined \$50. *Oakland*—Pacific Coast Canning Company, apricots, fined \$100; Pacific Coast Canning Company, pie apricots, fined \$100; Landregan & White, whiskey, fined \$5; Came's Bar, vermouth, fined \$10; J. Cam-long, whiskey, fined \$10; O. Egenberger, walnut meats, fined \$10; Matthesen & Bas, Gilka Kummel, fined \$5; Ferrari & Fagundas, whiskey, fined \$5; Ferrari & Fagundas, bitters, fined \$5; M. Rapone, tomato paste, fined \$10; Sheafer's Pharmacy, camphorated oil, fined \$25; Shaefer's Pharmacy, sweet oil, fined \$25, sentence suspended; Swan Pharmacy, cold cure, fined \$25; Steve Habich, whiskey, fined \$5; C. H. Coultres, maple chews, fined \$5; R. N. Luscombe, black pepper, fined \$5. *San Francisco*—Dunne's Saloon, Amer Picon, Fernet Branca and Hennessy brandy, guilty—O. R. six months. Reception Grill, maple syrup, fined \$5.

ARTICLES OF FOOD CONDEMNED.

The following articles of food, condemned upon physical and chemical examination as unfit for food were destroyed or denatured during the month of October:

Catsup, 4,356 cans, filthy, decomposed, California Sanitary Canning Company, Los Angeles. Tomatoes, 5,000 pounds, rotten, J. W. McCarthy Canning Company, Mountain View. Tomatoes, 20,950 pounds, broken, moldy, Schukel & Company, Niles. Pork and beef in brine, 45 pounds, putrid and decomposed, Sonoma Meat Market, Sonoma.

CASES REFERRED TO DISTRICT ATTORNEYS.

The following cases were referred by the State Board of Health, at the October meeting, to the district attorneys for prosecution. These cases included inferior liquors sold from bottles bearing the original labels of high grade manufacturers; chocolate adulterated with sugar and cocoa; chopped meat preserved with sulphur dioxide a prohibited preservative in meats; fava beans infested with weevils; ice cream below standard; hair remover having false and fraudulent claims on label; and maple syrup adulterated and mislabeled, containing no maple.

Fresno—Lancaster & Peden, maple syrup; Black's Package Company, chocolate. *Livermore*—Malley Hotel Annex, gin.* *Marysville*—Walter Culmsee, ice cream. *Oakland*—The Winedale Company, apricot brandy; The Winedale Company, black-berry brandy; Ki-Ko Chemical Company, Ki-Ko Hair Remover. *Santa Monica*—Marine Meat Market, chopped meat.† *San Francisco*—Invancovich-Trobock & Bergen Company, fava beans; Pacific French Wine Company, cognac brandy.

*Referred on two counts.

†Referred on five counts.

REPORT ON MATERIAL IN COLD STORAGE, OCTOBER 1, 1918.

Beer -----	1,738 bbls.	Meat—	
Bulbs, plants, etc.-----	558,616 lbs.	Beef -----	15,997 lbs.
Butter -----	1,605,737 lbs.	Bologna -----	1,850 lbs.
Candy -----	35,045 lbs.	Buffalo -----	620 lbs.
Catsup -----	232 bbls.	Cured -----	171,450 lbs.
Cereals -----	5,836 lbs.	Frozen -----	3,085 lbs.
Cheese -----	2,466,084 lbs.	Hamburger -----	25 lbs.
Cocoa -----	520 lbs.	Kidneys -----	100 lbs.
Cocoanuts -----	3,500 lbs.	Mince -----	1,950 lbs.
Eggs—		Miscellaneous -----	1,823,443 lbs.
Dried -----	908,754 lbs.	Mutton -----	212 lbs.
Fresh -----	6,691,740 doz.	Pork -----	101,637 lbs.
Frozen -----	88,803 lbs.	Sausage -----	4,330 lbs.
Fish—		Veal -----	1,248 lbs.
Cured -----	572,520 lbs.	Venison -----	77 lbs.
Fresh -----	771,451 lbs.	Whale -----	3,746 lbs.
Frozen -----	91,580 lbs.	Milk, condensed -----	226,806 lbs.
Shell -----	25,400 lbs.	Near beer -----	30 bbls.
Fruit, fresh—		Nuts -----	130,770 lbs.
Apples -----	2,646,550 lbs.	Nut meats -----	408,870 lbs.
Berries, miscellaneous--	238,163 lbs.	Oleomargarine -----	31,104 lbs.
Currants -----	190 lbs.	Olive oil -----	35 lbs.
Grapes -----	115,960 lbs.	Pickles -----	50 bbls.
Grapefruit -----	2,226 lbs.	Poultry -----	888,448 lbs.
Melons -----	4,500 lbs.	Rabbits -----	53 lbs.
Miscellaneous -----	5,202,535 lbs.	Rice -----	8,600 lbs.
Nectarines -----	50 lbs.	Vegetables—	
Oranges -----	13,278 lbs.	Beans -----	54,980 lbs.
Peaches -----	48,207 lbs.	Bell peppers -----	1,080 lbs.
Pears -----	665,052 lbs.	Cabbage -----	1,075 lbs.
Plums -----	4,127 lbs.	Celery -----	100 lbs.
Strawberries -----	25,876 lbs.	Chili -----	100,078 lbs.
Fruit, dried—		Green corn -----	440 lbs.
Miscellaneous -----	1,834,891 lbs.	Horseradish -----	66,526 lbs.
Peaches -----	600 lbs.	Mushrooms -----	12,750 lbs.
Prunes -----	186 lbs.	Onions -----	1,267,515 lbs.
Raisins -----	2,050 lbs.	Potatoes -----	323,275 lbs.
Fruit syrup -----	310,114 lbs.	Sauerkraut -----	3,538 lbs.
Head cheese -----	350 lbs.	Miscellaneous -----	69,297 lbs.
Ice cream -----	330 gals.	Wine -----	24 bbls.
Jam -----	10,830 lbs.	Zesto -----	4 kegs
Lard -----	147,019 lbs.		

The following Service and Regulatory Announcements have been received from the Bureau of Chemistry, United States Department of Agriculture, Washington, D. C.

274. Importation of crude drugs deficient in active principle.

The bureau has had considerable difficulty in the control of the importation of Pharmacopœial crude drugs which are required by the Pharmacopœia to show a definite assay, when such drugs offered for import are deficient in the active principle, but are nevertheless suitable for the manufacture of standardized products or of the pure active principles, or for technical purposes. The general policy which is being pursued by the bureau is to recommend that such goods be permitted entry under appropriate label, or in the case of unlabeled importations under representations by the importer as to the true character of the goods, only when the importer has made arrangements with a manufacturer for their use by that manufacturer in the preparation of standardized products or pure active principles or for a given technical purpose, provided the bureau receives a statement in writing from the manufacturer that he is fully aware of the nature of the goods, and is ready to give assurances that they will be used for a certain one of the three above purposes and will not be permitted to filter into the regular channels of trade where there is the possibility that they will be used for the preparation of nonstandardized Pharmacopœial preparations.

275. Crude drug substitutes.

Not infrequently shipments of crude drugs are offered for entry under names recognized in the Pharmacopœia of the United States or in the National Formulary, when, in fact, they differ in identity from the products therein described. If such substitutes are entirely worthless or are products concerning which there is little authentic data, the shipments are refused entry. In some instances the substitutes may have a legitimate though restricted use. In such case the bureau is willing to consider release of the shipment under appropriate label, or in the case of an unlabeled importation under representations by the importer as to the character of

the goods, if the importer can furnish the name of the ultimate consignee, and if he, in turn, satisfies the bureau that the use to which the product will be put is a proper one. The conditions of entry which will be considered are essentially the same as in the case of crude drugs deficient in active principle.

279. Bombay or Indian coriander.

Examination of importations of "coriander seed" (*Coriandrum sativum* L.) has disclosed that in some instances they have consisted of fruits differing in physical appearance from the Pharmacopœial description. The fruits are oval instead of spherical and not infrequently yield less volatile oil than the Pharmacopœial article. The product appears in the trade as "Bombay" or "Indian" coriander and appears to have value. The department will not object to the importation of Bombay or Indian coriander if invoiced, labeled, and sold as such, provided that any deficiency in volatile oil be indicated.

280. Piptostegia pisonis Mart. substituted for jalap U. S. P.

Examinations of importations of "jalap root" (*Exogonium purga* (Wenderoth) Benth.) have disclosed that in some instances the root of *Piptostegia pisonis* Mart. has been substituted for the true material. It occurs in commerce in the form of transverse circular or oval sections, varying from about 3 to 8 centimeters in diameter and from about 0.3 to 0.8 centimeter in thickness, whereas jalap generally occurs in fusiform irregularly ovoid or pyriform tuberous roots, the upper end more or less rounded, the lower end slightly tapering, the roots varying from 4 to 15 centimeters in length and from 12 to 60 millimeters in diameter. The pieces of *Piptostegia pisonis* are marked with several concentric rings, and aside from the pale grayish-brown tint and the presence of numerous dots of translucent pale resin on the surface, bear considerable resemblance to white bryony root. Preliminary experiments with resin isolated from the root in this bureau indicate that the material has purgative properties. The department will raise no objection to the importation of *Piptostegia pisonis*, provided it is properly invoiced, labeled, and sold. In releasing such goods, however, the department will take such precautions or impose such conditions as seem necessary to prevent its sale as jalap U. S. P.

281. Cardamom seed adulterated with pebbles and seeds of amomum species.

Examination of importations of "cardamom seed" (*Elettaria cardamomum* White et Maton) in some instances has disclosed the presence of considerable amounts of foreign material, consisting of small pebbles as well as the seeds of a species of *Amomum*, probably *Amomum xanthioides* Wallich or *Amomum villosum* Loureiro. In some instances the small pebbles resembled cardamom seed. The seeds of the *Amomum* species mentioned are generally darker in color than those of cardamom and have roughened surfaces with minute elevations, whereas those of cardamom have wrinkled surfaces and are strongly longitudinally grooved on one side. The department will recommend the detention of any shipment of cardamom seed found to contain more than 5 per cent of foreign seeds, pebbles, or other foreign material.

282. Strophanthus sarmentosus substituted for strophanthus seed (strophanthus hispidus).

Examination of importations of "Strophanthus seed" (*Strophanthus hispidus* P.DC.) has disclosed that in some instances the seeds of *Strophanthus sarmentosus* P. DC. have been substituted partially or wholly for the true material. The embryo of *Strophanthus hispidus* contains no crystals of calcium oxalate and gives a green color when treated with 80 per cent sulfuric acid, whereas the embryo of *Strophanthus sarmentosus* has abundant crystals of calcium oxalate, and gives a red color when treated with 80 per cent sulfuric acid. The department will recommend the detention of any shipment of *Strophanthus hispidus* found to consist in whole or in part of the seeds of *Strophanthus sarmentosus*. There is little reliable data available regarding the physiological activity of this species.

283. Moldy orris root fingers.

Examination of importations of "orris root fingers" has disclosed that in some instances the goods have been badly infected with molds. Not only was the surface affected, but also the inner tissues, so that a process of scrubbing or cleaning could not remove the mold. The department will recommend the exclusion for food or drug use of orris root fingers found to contain more than 10 per cent of rhizomes showing distinct evidence of mold.

284. *Aconitum chasmanthum* stapf, substituted for aconite U. S. P.

Examination of importations of "aconite" has disclosed that in one instance the root of *Aconitum chasmanthum* Stapf. has been substituted for the true material. The root of *Aconitum chasmanthum* is generally smaller than that of *Aconitum napellus*, about 2 centimeters long and about 0.75 centimeter in diameter; it is less wrinkled and the rootlet stubs are usually clustered at the basal end. Its fracture is lighter in color and its texture less tough and resinous. The department will recommend the detention of any shipment of aconite root found to consist in whole or in part of the roots of *Aconitum chasmanthum*. In releasing such goods, the department will take such precautions or impose such conditions as seem necessary to prevent their sale as aconite U. S. P.

285. Anise seed adulterated with exhausted seed.

Examination of importations of "anise seed" has disclosed that in a large number of instances seeds of exhausted anise have been substituted for the true material in amounts up to as high as 70 per cent. The department will consider as adulterated and therefore subject to exclusion from this country any importations of anise seed found to consist in whole or in part of exhausted seed.

286. Notice to shippers of "farmers stock" peanuts.

Complaints have been received that in many instances an excessive amount of dirt, stems, vines, pops, stones, and other trash is present in "farmers stock" peanuts as shipped or offered for shipment in interstate commerce. In the opinion of the bureau, the deliberate addition of foreign matter to peanuts, or the leaving in the peanuts of quantities of foreign matter greater than remain in the peanuts when harvested according to good farm practice constitutes adulteration under the provisions of section 7 of the Federal Food and Drugs Act.

287. Peanut by-products used as feed.

The bureau is of the opinion that "peanut oil cake," sometimes designated "peanut cake," is the residue after the extraction of part of the oil by pressure or solvent from peanut kernels.

"Peanut oil meal," sometimes designated "peanut meal," is the ground residue after the extraction of part of the oil from peanut kernels.

"Unhulled peanut oil feed" or "peanut meal and hulls" is the ground residue obtained after extraction of part of the oil from unshelled peanuts.

The foregoing are substantially the definitions tentatively adopted for these products by the Association of Feed Control Officials of the United States at its annual meeting in 1916, and finally adopted by the association at the annual meeting in 1917.

288. Hominy feed and corn feed meal.

Question has arisen relative to the correct definitions of "hominy feed," "hominy meal," or "hominy chop," and "corn feed meal," and the various constituents which may legitimately be present in these products. The bureau therefore announces the following opinions concerning the use of these terms:

"Hominy feed," "hominy meal," or "hominy chop" is a kiln-dried mixture of the mill run bran coating, the mill run germ (with or without a partial extraction of the oil), and a part of the starchy portion of the white corn kernel, obtained in the manufacture of hominy, hominy grits, and corn meal by the degerminating process.

"Yellow hominy feed," "yellow hominy meal," or "yellow hominy chop" is a kiln-dried mixture of the mill run bran coating, the mill run germ (with or without a partial extraction of the oil), and a part of the starchy portion of the yellow corn kernel, obtained in the manufacture of yellow hominy grits and yellow corn meal by the degerminating process.

The terms "hominy meal," "hominy feed," or "hominy chop," standing alone and unqualified, refer only to the article made from white corn.

Screenings, obtained by cleaning corn which is to be used in preparing hominy, hominy grits, or corn meal, are not a legitimate ingredient of hominy feed, hominy meal, or hominy chop, and a mixture of hominy feed, as defined above, with the screenings obtained by cleaning the corn should be designated "hominy feed (hominy meal" or "hominy chops") and screenings," or by some other designation which will indicate that screenings have been added to the "hominy feed."

All the germ obtained at the end of the corn-milling process, or all this germ after the oil has been extracted is a part of the hominy feed, and if any of the germ is removed the product can not properly be designated as hominy feed, but should be designated as "hominy feed with a part of the germ removed," or by similar labeling which would correctly indicate the true nature of the feed.

"Corn feed meal" is the by-product obtained in the manufacture of cracked corn, with or without the aspiration products added to the siftings, and is also the by-product obtained in the manufacture of table meal from the whole grain by the nondegerminating process.

289. Labels of beverages containing fruit juice.

The bureau is of the opinion that terms such as ade, squash, punch, crush, and smash, when used in conjunction with the name of a fruit, can be applied correctly only to beverages, either still or carbonated, which contain the fruit or juice of the fruit named. Such terms should not be products flavored only with essential oils or essences.

290. Misbranding of canned Swiss chard.

It has come to the attention of the bureau that certain canners of Swiss chard are labeling this product as canned spinach. The bureau is informed that spinach and Swiss chard are two entirely distinct varieties of vegetable and that their names are accordingly not interchangeable. The labeling of canned Swiss chard as spinach or as a variety or type of spinach is regarded as a violation of the Federal Food and Drugs Act.

291. Declaration of quantity of contents of canned artichokes.

The bureau is of the opinion that the quantity of the contents of canned artichokes should be declared in terms of the net weight of the drained contents. An additional statement of the number of artichokes in the can may be made if the canner so desires.

292. Cheese in package form (amendment to item 193, p. 46, S. R. A. Chem. 18).

Representatives of the cheese trade have requested a reconsideration of item 193 in S. R. A. Chem. 18, in so far as it concerns individual cheese of the brick and Limburger types when wrapped in paper and tin foil, and individual imported Roquefort cheeses wrapped in tin foil and parchment paper.

The contention is made that these cheeses are not in package form because they are always sold by the pound and not at a definite price per package; the paper and foil used on such cheeses are intended for the purpose of creating and maintaining these types of cheeses and are not for the purpose of dividing into trade units; such paper and foil are an integral part of the cheese in that they compose the binding or rind; they are not inclosed in a receptacle and are therefore not in package form; the very nature of the product causes wide variation in the units of manufacture which would of necessity require each piece to be separately weighed, wrapped, and marked; to do this entails an added cost without any resulting good.

Further careful consideration of the arguments advanced by the trade leads to the conclusion that there is reason to doubt whether cheeses of the type mentioned and in the form described can be regarded as in package form within the meaning of the net weight amendment to the Food and Drugs Act. The bureau will, therefore, not regard individual cheeses of the brick and Limburger types, when wrapped in tin foil or parchment paper or coated with paraffin, or individual Roquefort cheeses wrapped in tin foil or parchment paper, as food in package form within the meaning of the act. For the present and until due notice to the contrary is given, cheeses of this description need not be marked with a statement of the quantity of the contents. Item 193 in S. R. A. Chem. 18 is amended accordingly.

The practice of using extra heavy wrappings or tin foil will be regarded as a ground for proceeding against shipments of cheeses so prepared, for the reason that they are adulterated within the meaning of section 7 of the act, in the case of food.

293. Short volume cans for raw oysters.

A large number of shipments of raw oysters packed in cans were found, during the past season, to be short of the volume declared on the container. Examination of the cans showed the capacity of these to be appreciably less, after the lid was inserted and the can ready for shipment, than the net volume stamped thereon by the maker.

Since the Food and Drugs Act places the responsibility for interstate shipments of short volume products upon the shipper and not upon the manufacturer of the can, packers should take the precaution to see that those containers used by them, when filled and ready for shipment, actually contain the quantity of oysters declared.

294. Tomato sauce thickened with starch considered adulterated.

It has come to the attention of the bureau that tomato sauce, which is used largely as a dressing for various articles of canned food, is sometimes thickened by the addition of starch. The bureau is of the opinion that starch is not a proper ingredient of such tomato sauce.

295. Notice regarding the addition of water to canned tomatoes.

The department announced in Food Inspection Decision 144, issued May 27, 1912, that canned tomatoes containing added water were regarded as adulterated within the meaning of the Food and Drugs Act. Notwithstanding this announcement, it has been necessary to bring prosecution in numerous cases in which canned tomatoes were found to have been adulterated with water.

It has come to the attention of the bureau that certain tomato canners were unwittingly diluting the tomato juice used in canning their products through the employment of improper factory methods. In some factories the juice was heated with an open steam coil or by live steam in some form. This always results in a dilution of the juice through a condensation of steam. In other establishments the juice is elevated by one or more steam siphons. Unless great care is used in this practice, steam will be condensed, with a resulting dilution of the juice.

The bureau will continue to regard as adulterated canned tomatoes containing added water from any source, and this notice is issued to canners in order that they may take proper precautions to modify their processes in such a way as to obviate possible dilution of their product through the use of faulty factory methods.

298. Labeling of Barataria shrimp.

It has come to the attention of the bureau that some packers of shrimp are labeling their product "Barataria shrimp," regardless of whether or not the shrimp so labeled are caught in Barataria Bay. Paragraph (b) of regulation 19 of the Rules and Regulations for the Enforcement of the Federal Food and Drugs Act is as follows:

The use of a geographical name shall not be permitted in connection with a food or drug product not manufactured or produced in that place, when such name indicates that the article was manufactured or produced in that place.

It is the opinion of the bureau that the term "Barataria" should be applied only to shrimp caught in Barataria Bay. The use of this term in labeling shrimp caught at other places is deemed misbranding under the terms of the Federal Food and Drugs Act.

299. Cottonseed meal in sacks of uniform size should be marked with the net weight.

The attention of the bureau has been called to the fact that it is the practice of certain shippers of feedstuffs, especially cottonseed meal, to ship these products in sacks of uniform size without marking the packages to show the net weight of the contents. Cottonseed meal and other feeds in sacks of uniform size are regarded as food in package form within the meaning of section 8 of the Food and Drugs Act, paragraph 3, in the case of food, and should bear a plain and conspicuous statement of the net weight of the contents. This statement may be made by means of a stencil on the sack or by the use of a tag, if firmly affixed, provided in either case that the statement is plain and conspicuous.

REPORT OF THE BUREAU OF REGISTRATION OF NURSES FOR SEPTEMBER.

By KATE S. DOUGLASS, Assistant Inspector of Schools of Nursing, Bureau of Registration of Nurses, California State Board of Health.

With the great interest and willingness to co-operate with us shown by the high schools and other educational institutions, it would seem that a great step forward had been taken in giving an equal place to the education of the nurse in our preparatory work with that preparation given in other professions and vocations. As the school year begins, numerous reports are coming in concerning the work which is being done in educational institutions for our schools of nursing. Many high schools have arranged to give the work intensively—not only for pupils in the nursing school, but also for pupils who may wish to enter schools of nursing later. High schools in small places, where there are no schools of nursing, also are showing their interest in this widespread movement to increase student nurses by arranging their work so as to give a pre-nursing course. There is an increasing tendency to place a course of instruction in elementary nursing procedures in our high schools wherever a graduate nurse can be secured who is qualified for appointment to their teaching staff. In a few schools this is being done with the co-operation of the Red Cross chapter. In such cases the expense of the equipment is divided between the school and the Red Cross chapter, the equipment then being used both by the high school and by the Red Cross for teaching Red Cross home nursing classes.

In response to the calls from the Surgeon General's office for an increased enrollment in the Red Cross nursing service to meet the increasing needs of our military forces, more instructors and executives are leaving us. The training of the nurse is a patriotic work and the great need of such work is becoming increasingly apparent each day, with an increased number of pupils applying and entering our schools of nursing. How is it possible to meet the request of the government for increasing our number of pupils if we are to continue losing our instructors? This is constructive work of such importance that it would seem to be the truest duty of every graduate nurse who can teach to remain at her post, assisting and aiding us to keep up our supply of nurses to meet the ever increasing branches and ramifications of our nursing work. Many hospitals are replacing the work of their graduate head nurses by giving senior pupil nurses this duty and also calling on them for assistance in the office administration, particularly for clerical work, record and reports. It might be possible, where a pupil has had previous training as a teacher, to give her in her last months of training some practice in teaching the elementary procedures. This accomplishes two important things; first, supplying the necessary service to the school of nursing, and second, giving to the pupil the very necessary experience in executive work and practical teaching and also the developing of responsibility. Unfortunately, we are continually hearing the complaint that our graduates lack initiative and can not take responsibility, this being most obvious in the work of the public health nurse. We have been carefully placing all responsibility, with need of judgment and decision, upon our graduate head nurse until the pupil has lost this much needed training in making decisions and ability then to act upon such decision when thrown upon her own resources.

When possible, schools of nursing are affiliating for class and lecture work, which is an excellent arrangement. In this way classes from two or three schools are having lectures in a central place from one lecturer. Where two small schools of nursing can work together, each being responsible for half of the class work of the schools, the burden is very much lighter for each. When possible, this is being done by a small city school and one connected with a county hospital, so affiliating and planning their work that the result is that we have the two working as one school.

Applications to some of our schools are continuing to come in far in excess of the schools' ability to accept them, one school having more pupils than patients, which permits of wide selection in elective work in the last year of their training. This seems to be in direct proportion to the standard of requirements, as the school requiring high school graduates is, as a rule, well supplied with pupils and has long waiting lists. The schools lacking in applications apparently are those

which are not requiring high entrance standards, nor giving to pupils the desired amount of class work after entrance. There are a few schools which are giving more than the required subjects and the required number of hours in their class work; some of the subjects being given in excess of the requirements are elementary psychology, medical jurisprudence, physical training, parliamentary procedure and conversational French. Perhaps the subjects, with the exception of psychology, are not absolutely essential to nursing schools' curricula, but they are invaluable to a graduate nurse who wishes to take her place in doing executive work and in nurses' associations.

Army Schools of Nursing.

Word from Washington has been received stating that there will be two schools of nursing on this coast, in Camp Kearny and Camp Lewis. These schools are to be opened shortly, if this has not already been done, with their first classes. Many applications and inquiries have been pouring into the office of the Surgeon General in Washington and from the applications a splendid group of women has been selected to form the first class. The spirit indicated in the resigning of good positions by high school teachers and other professional women to begin a strenuous course of study, preparatory for a new profession, is an instance of the widespread effort and interest shown by women to do what they can and may in this world war. While applications to army schools are from women of good standing and are being accepted, on the other hand, many coming in through the student nurse reserve as a result of the drive of July 29-August 10, are not as good and are being rejected. This information is of value to us, as it indicates very conclusively that the government does not wish quality and efficiency sacrificed even to meet our urgent need of nurses today.

Miss Mary B. Eyre, graduate of St. Luke's Hospital, Denver, Colorado, secretary for four years and president for two years of the Colorado State Board of Nurse Examiners, and superintendent of the Minnequa Hospital School of Nursing, Pueblo, Colorado, has recently been appointed assistant inspector of schools of nursing for the northern section of California. She will be located in the Underwood Building, San Francisco, after October 13.

REPORT OF BUREAU OF REGISTRATION OF NURSES FOR OCTOBER.

KATE S. DOUGLASS, Assistant Inspector of Schools of Nursing.

Owing to the widespread prevalence of influenza during October, inspections of nursing schools in the northern and southern parts of California have been very much hampered where they have not been rendered impossible. It has been a most inopportune time to inspect and seemed very inadvisable. As practically all high schools were closed by rulings of the local health authorities, talks to groups of pupils, for which arrangements had been made, were indefinitely postponed.

Very unfortunately for the nurses in southern California, who were expecting to take their state board examinations for registration October 16-17, Spanish influenza assumed such proportions in Los Angeles and vicinity that the health officers ruled against any public meetings. In spite of various efforts we were unable to secure permission in Los Angeles, nor in any neighboring towns, to hold these examinations. The bureau regrets the disappointment and inconvenience to which so many nurses were subjected. There were approximately one hundred and twenty-five applications for this examination in southern California, and many were only waiting for this to enroll for active duty. The nurses in the northern part of the state were more fortunate, as the ruling prohibiting any public gatherings did not go into effect until the day after the examinations for state registration had been held.

According to a recent ruling of the State Board of Health, if students who are in the nursing schools now are graduates of an accredited high school and can present credits in chemistry, biology and physiology, nutrition and cookery,

and have fulfilled the necessary professional requirements, they may, upon application to the Bureau of Registration of Nurses in Sacramento, receive some credit. Though these requirements went into effect September 1, 1918, they have been made retroactive for all students who are now in the schools of nursing. This is true also for the college graduate. By this arrangement, a large number of pupils should be ready to leave our schools shortly and increase our available number of nurses for enrollment in the Red Cross nursing service.

The College of the Pacific, San Jose, has been granted its affiliation with the schools of nursing connected with Lane Hospital and University of California Hospital leading to the bachelor's degree of science and nursing diploma. The addition of this college gives us four colleges that are affiliated with the above nursing schools. This is rather a remarkable arrangement for these schools of nursing and should react to their great advantage. It would seem with such sources to draw from, that these schools of nursing would eventually rank as graduate schools.

LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—

Dr. J. Hal Cope.....Pleasanton
Alameda.....Dr. A. Hieronymus
Albany.....Dr. J. F. Diddle
Berkeley.....Dr. J. J. Benton
Emeryville.....Dr. A. T. Drennan
Hayward.....Dr. F. W. Browning
Livermore.....Dr. J. K. Warner
Oakland.....Dr. Kirby B. Smith
Piedmont.....Dr. Benj. T. Mouser
Pleasanton.....Dr. J. Hal Cope
San Leandro.....Dr. Luther Michael

Alpine County—

Mr. Fred S. Dunlap.....Markleeville

Amador County—

Dr. G. L. Lynch.....Amador City
Jackson.....H. E. Kay
Plymouth.....W. J. Ninnis
Sutter Creek.....T. W. Trudgen

Butte County—

Dr. L. L. Thompson.....Gridley
Biggs.....Sarah J. Hiett
Chico.....W. H. Marshall
Gridley.....Dr. L. Q. Thompson
Oroville.....Dr. W. F. Gates

Calaveras County—

Dr. George F. Pache, Angels Camp
Angels Camp.....Dr. E. W. Weirich

Colusa County—

Dr. G. W. Desrosier.....Colusa
Colusa.....Dr. G. W. Desrosier

Contra Costa County—

Dr. Chas. R. Blake.....Richmond
Antioch.....Dr. W. S. George
Concord.....Dr. F. F. Neff
El Cerrito.....Dr. J. F. Diddle
Hercules.....Dr. C. T. Wetmore
Martinez.....Dr. Edwin Merrithew
Pinole.....Dr. M. L. Fernandez
Pittsburg.....Dr. H. E. Peters
Richmond.....Dr. Chas. R. Blake
Walnut Creek.....Dr. C. R. Leech

Del Norte County—

Dr. E. M. Fine.....Crescent City
Crescent City.....Dr. E. M. Fine

El Dorado County—

Dr. S. H. Rantz.....Placerville
Placerville.....P. J. Hall

Fresno County—

Dr. G. L. Long.....Fresno
Clovis.....Dr. M. S. McMurtry
Coalinga.....Dr. C. W. Hutchinson
Firebaugh.....R. P. Snyder
Fowler.....Chas. Chapman
Fresno.....Dr. C. Mathewson
Kingsburg.....Dr. T. D. Smith
Reedley.....Dr. Chas. H. Traber
Sanger.....Dr. Thos. F. Madden
Selma.....Dr. Fred H. Williams

Glenn County—

Dr. Etta S. Lund.....Willows
Orland.....Dr. S. Iglick
Willows.....Dr. W. H. Walker

Humboldt County—

Dr. Carl T. Wallace.....Eureka
Arcata.....Dr. G. W. McKinnon
Blue Lake.....Dr. Earl W. Hill
Eureka.....Dr. L. A. Wing
Ferndale.....Dr. A. P. Griffin
Fortuna.....Dr. Orville Rockwell

Imperial County—

Dr. R. K. McGuffin.....Imperial
Brawley.....Dr. Eugene Le Baron
Calexico.....Dr. M. L. Parcels
El Centro.....Dr. W. F. Peterson
Holtville.....C. A. Johnston
Imperial.....Dr. R. K. McGuffin

Inyo County—

Dr. I. J. Woodin.....Independence
Bishop.....Dr. C. J. Bevan

Kern County—

Dr. C. A. Morris.....Bakersfield
Bakersfield.....Dr. P. J. Cuneo
Delano.....Dr. J. R. Hicks
Maricopa.....Dr. H. N. Taylor
McKittrick.....Dr. Robert C. Dear
Taft.....Dr. M. W. Pascoe
Tehachapi.....Dr. E. F. O'Reilly

Kings County—

Dr. C. L. Scott.....Hanford
Corcoran.....Dr. J. T. Peery
Hanford.....Dr. A. S. Torrens
Lemoore.....Dr. W. P. Byron

Lake County—

Dr. A. N. Craig.....Kelseyville
Lakeport.....

Lassen County—

Dr. W. E. Dozier.....Susanville
Susanville.....Dr. W. E. Dozier

Los Angeles County—

Dr. J. L. Pomeroy.....Los Angeles
Alhambra.....Dr. F. E. Corey
Arcadia.....Dr. Chas D. Gaylord
Avalon.....Dr. J. J. Peckham
Azusa.....Dr. John E. Hill
Beverly Hills.....Dr. J. R. Perry
Burbank.....Dr. E. H. Thompson
Claremont.....Dr. J. I. Latimer
Compton.....E. E. Elliott
Covina.....Dr. J. A. Lepley
Culver City.....Dr. W. F. Mortensen
Eagle Rock.....Dr. C. H. Phinney
El Monte.....Dr. S. L. Corpe
El Segundo.....R. F. Davis
Glendale.....Dr. R. E. Chase
Glendora.....Dr. J. L. Pomeroy
Hermosa Beach.....B. F. Brown
Huntington Park.....Dr. W. Thompson
Inglewood.....Dr. W. W. Reber
La Verne.....Dr. J. E. Hubble
Long Beach.....Dr. R. L. Taylor
Los Angeles.....Dr. L. M. Powers
Manhattan Beach.....Llewellyn Price
Monrovia.....Dr. Chas. D. Gaylord
Monterey Park.....Dr. J. S. Trehwella
Pasadena.....Dr. Stanley P. Black
Pomona.....Dr. N. J. Rice
Redondo Beach.....Dr. D. R. Hancock
San Fernando.....Dr. John M. Griffiths
San Gabriel.....Dr. Wm. W. Worster
San Marino.....Dr. W. LeMoyne Wills
Santa Monica.....Dr. F. J. Wagner
Sierra Madre.....Dr. R. H. Mackerras
South Pasadena.....Dr. C. F. Metcalf
Venice.....Dr. I. L. Magee
Vernon.....Dr. L. J. Williams
Watts.....Dr. J. L. Lamb
Whittier.....Dr. W. H. Stokes

Madera County—

Dr. L. St. John Hely.....Madera
Madera.....Dr. L. St. John Hely

Marin County—

Dr. J. H. Kuser.....Novato
Belvedere.....Dr. Florence Scott
Corte Madera.....A. F. Roberts
Larkspur.....Dr. L. Newman
Mill Valley.....James V. Chase
Ross.....Dr. Thos. U. Smith
San Anselmo.....Dr. O. W. Jones
San Rafael.....Dr. W. F. Jones
Sausalito.....

Mariposa County—

Dr. F. L. Wright.....Mariposa

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Mendocino County—
 Dr. S. L. Rea..... Ukiah
 Fort Bragg..... Dr. L. C. Gregory
 Point Arena..... Conrad Nicks
 Potter Valley..... W. T. Eddie
 Ukiah..... Dr. Lew K. Van Allen
 Willits..... Dr. F. G. Gunn
 Merced County—
 Dr. J. L. Mudd..... Merced
 Gustine..... Dr. C. E. Stagner
 Los Banos..... Dr. R. Jadarola
 Merced..... Dr. H. Kylberg
 Modoc County—
 Dr. John Stille..... Alturas
 Alturas..... Dr. John Stille
 Mono County—
 Bridgeport
 Monterey County—
 Dr. J. A. Beck..... Salinas
 Carmel-by-the-Sea..... W. T. Kibler
 King City..... Dr. D. Brumwell
 Monterey..... Peter Sella
 Pacific Grove..... James P. Evans
 Salinas..... W. E. Hallock
 Napa County—
 Dr. O. T. Schulze..... Napa
 Calistoga..... Harry Von Arx
 Napa..... Alex. Hull
 St. Helena..... Wynn M. Powers
 Nevada County—
 Dr. Carl P. Jones..... Grass Valley
 Grass Valley..... Dr. Sidney Talbot
 Nevada City..... Geo. H. Calanan
 Orange County—
 Dr. J. I. Clarke..... Santa Ana
 Anaheim..... Dr. J. W. Truxaw
 Brea..... Dr. F. M. Rossiter
 Fullerton..... Dr. J. H. Lang
 Huntington Beach..... Dr. G. A. Shank
 Newport Beach..... J. A. Porter
 Orange..... Dr. J. C. Crawford
 Santa Ana..... Dr. J. I. Clark
 Seal Beach..... Dr. J. Park Dougall
 Stanton..... Dr. J. H. Swan
 Placer County—
 Dr. John Manson..... Lincoln
 Auburn..... Dr. A. N. Couture
 Colfax..... Dr. H. N. Miner
 Lincoln..... F. R. Elder
 Rocklin..... John H. Gregory
 Roseville..... G. W. Lohse
 Plumas County—
 Dr. B. J. Lasswell..... Quincy
 Riverside County—
 Dr. James G. Baird..... Riverside
 Banning..... Dr. L. M. Ryan
 Beaumont..... Dr. F. D. West
 Blythe..... Dr. W. H. Chapman
 Corona..... Dr. W. S. Davis
 Elsinore..... Dr. G. E. Shank
 Hemet..... Dr. H. O. Miller
 Perris.....
 Riverside..... Dr. W. B. Wells
 San Jacinto..... Will H. Gray
 Sacramento County—
 Dr. J. H. Leimbach..... Isleton
 Sacramento..... Dr. W. J. Hanna
 San Benito County—
 Dr. J. M. O'Donnell..... Hollister
 Hollister..... Dr. J. M. O'Donnell
 San Juan..... Joseph De Lucchi
 San Bernardino County—
 San Bernardino
 Chino..... Dr. Elgar Reed
 Colton..... Dr. C. F. Whitmer
 Needles..... Dr. A. S. Parker
 Ontario..... Dr. Calvert L. Emmons
 Redlands..... Dr. Wm. A. Taltavall
 Rialto..... Dr. L. P. Barbour
 San Bernardino..... Dr. F. M. Gardner
 Upland..... E. R. Bowman

San Diego County—
 Dr. A. M. Lesem..... San Diego
 Chula Vista..... Dr. G. E. Fuller
 Coronado..... Dr. Raffael Lorini
 East San Diego..... Dr. C. R. Carpenter
 El Cajon..... Dr. Chas. R. Knox
 Escondido..... Dr. B. L. Crise
 La Mesa..... Dr. A. D. Marks
 National City..... Dr. Theo. F. Johnson
 Oceanside..... Dr. R. S. Reid
 San Diego..... Dr. E. P. Chartres-Martin
 San Francisco (city and county)—
 Dr. W. C. Hassler..... San Francisco
 San Joaquin County—
 Dr. John T. Davison..... Stockton
 Lodi..... Dr. S. W. Hopkins
 Stockton..... Dr. Linwood Dozier
 Tracy..... Dr. J. G. Murrell
 San Luis Obispo County—
 Dr. C. J. McGovern..... San Luis Obispo
 Arroyo Grande..... Dr. H. S. Brown
 Paso Robles..... W. W. Hughes
 San Luis Obispo..... W. F. Cook
 San Mateo County—
 Dr. F. Holmes Smith..... San Bruno
 Burlingame..... Dr. Jane H. Parkhurst
 Daly City..... Dr. A. H. Rankin
 Hillsborough..... C. M. Hirschey
 Redwood City..... Dr. J. E. Chapin
 San Bruno..... Dr. F. Holmes Smith
 San Mateo..... Dr. W. C. McLean
 So. San Francisco..... Dr. J. C. McGovern
 Santa Barbara County—
 Dr. G. S. Loveren..... Santa Barbara
 Lompoc..... Dr. C. B. Constable
 Santa Barbara..... Geo. H. Hicks
 Santa Maria..... Dr. O. P. Paulding
 Santa Cruz County—
 Dr. Wm. H. Keck..... Santa Cruz
 Santa Cruz..... Dr. A. N. Nittler
 Watsonville..... Dr. F. H. Koepke
 Santa Clara County—
 Dr. Wm. Simpson..... San Jose
 Alviso..... Alice Davee
 Gilroy..... Dr. J. W. Thayer
 Los Gatos..... Dr. R. S. Anthony
 Mayfield..... Joseph Ponce
 Morgan Hill..... Dr. W. D. Miner
 Mountain View..... Dr. A. H. MacFarlane
 Palo Alto..... Louis Olson
 San Jose..... Dr. A. S. Bailey
 Santa Clara..... Dr. G. W. Fowler
 Sunnyvale..... Mrs. Norman Schofield
 Shasta County—
 Dr. S. T. White..... Redding
 Kennett..... Dr. J. P. Sandholt
 Redding..... E. A. Rolison
 Sierra County—
 Dr. O. A. Eckhardt..... Downieville
 Loyalton..... Dr. L. G. Ede
 Siskiyou County—
 Dr. W. F. Shaw..... Yreka
 Dorris..... Otha A. Wilkins
 Dunsuir..... Herman Woodward
 Etna..... Dr. W. H. Haines
 Fort Jones..... T. J. Wayne
 Montague..... Hugh W. French
 Sisson..... Dr. Paul Wright
 Yreka..... Dr. W. F. Shaw
 Solano County—
 Dr. W. C. Jenney..... Vacaville
 Benicia..... Dr. P. B. Fry
 Dixon..... H. G. Grove
 Fairfield..... F. L. Morrill
 Rio Visto..... Geo. Adcock
 Suisun..... Dr. A. G. Bailey
 Vacaville..... W. F. Hughes
 Vallejo..... Dr. E. A. Peterson

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Sonoma County—

Dr. F. O. Pryor-----Santa Rosa
 Cloverdale-----E. E. Gibbins
 Healdsburg-----Dr. J. W. Seawell
 Petaluma-----Dr. R. B. Duncan
 Santa Rosa-----Dr. Jackson Temple
 Sebastopol-----Dr. W. J. Kerr
 Sonoma-----J. H. Albertson

Stanislaus County—

Dr. J. L. Hennemuth-----Modesto
 Modesto-----Dr. J. W. Ransom
 Newman-----Dr. H. V. Armistead
 Oakdale-----Dr. E. R. Clarke
 Turlock-----Dr. W. L. Wilson

Sutter County—

Dr. W. L. Stephens-----Meridian
 Yuba City-----Dr. J. H. Barr

Tehama County—

Dr. E. E. Thompson-----Red Bluff
 Corning-----Dr. O. F. Rudolph
 Red Bluff-----Dr. Walter Gavey
 Tehama-----Dr. Mary B. Poket

Trinity County—

-----Weaverville

Tulare County—

Dr. A. W. Preston-----Visalia
 Dinuba-----Dr. A. N. Loper
 Exeter-----Dr. W. R. Tyler
 Lindsay-----Dr. C. W. Locke
 Porterville-----Dr. O. C. Higgins
 Tulare-----Dr. J. B. Rosson
 Visalia-----Dr. A. W. Preston

Tuolumne County—

Dr. Wm. L. Hood-----Sonora
 Sonora-----Dr. Wm. L. Hood

Ventura County—

Dr. A. A. Maulhardt-----Oxnard
 Fillmore-----Dr. Will R. Manning
 Oxnard-----Dr. G. A. Broughton
 Ventura-----J. H. Hardy
 Santa Paula-----Dr. G. C. Nichols

Yolo County—

Dr. W. J. Blevins-----Woodland
 Davis-----Dr. W. E. Bates
 Winters-----C. M. Norton
 Woodland-----W. W. Brown

Yuba County—

Dr. J. H. Barr-----Marysville
 Marysville-----Dr. A. L. Miller
 Wheatland-----W. H. Niemeyer

List of Diseases Reportable by Law

Anthrax	Ophthalmia Neonatorum
Beri-beri	Paratyphoid Fever
Cerebrospinal Meningitis	Pellagra
(Epidemic)	Plague
Chickenpox	Pneumonia (Lobar)
Cholera, Asiatic	Poliomyelitis
Dengue	Rabies
Diphtheria	Rocky Mountain Spotted
Dysentery	(or Tick) Fever
Erysipelas	Scarlet Fever
German Measles	Smallpox
Glanders	*Syphilis
*Gonococcus Infection	Tetanus
Hookworm	Trachoma
Leprosy	Tuberculosis
Malaria	Typhoid Fever
Measles	Typhus Fever
Mumps	Whooping-cough
	Yellow Fever

***Reported by office number. Name and address not required.**

Quarantinable Diseases

Cerebrospinal Meningitis	Poliomyelitis
(Epidemic)	Scarlet Fever
Cholera, Asiatic	Smallpox
Diphtheria	Typhus Fever
Leprosy	Yellow Fever
Plague	

Section 16, Public Health Act. All physicians, nurses, clergymen, attendants, owners, proprietors, managers, employees, and persons living in or visiting any sick person in any hotel, lodging house, house, building, office, structure, or other place where any person shall be ill of any infectious, contagious, or communicable disease, shall promptly report such fact to the county, city and county, city, or other local health board or health officer, together with the name of the person, if known, and place where such person is confined, and nature of the disease, if known.

HABITS AND HEALTH

ORGANIZED society may purchase the extinction of the malarial mosquito. It may buy the eradication of the yellow fever mosquito, the rat of bubonic plague, the tick of spotted fever, the fly of sleeping sickness, or the louse of typhus fever or of trench fever. Organized society may buy clean, pure water, and it may purchase a successful food inspection. But it can not buy habits of personal hygiene that produce human health; that defend the individual from disease and postpone his death. It can not purchase health habits that give the individual resistance to disease, making it harder for him to become sick and easier to recover. It can not purchase the personal consciousness of individual obligation in the health affairs of the community that is essential to an effective defense of the community health.—T. A. STOREY, M.D., Ph.D., on Physical Training.

OF WM. P. LUCAS,
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